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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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FUELING.

A good deal of attention has lately been directed again toward the subject of naval coal. With our vast and scattered foreign possessions it is hardly possible to over-estimate the importance of the question, says the London "Colliery Guardian." Coal, there is no doubt, will be in the next naval war one of the chief requisites. Upon ourselves (it has well been pointed out), possessing as we do the largest area of colonial empire, scattered over all the seas and the oceans of the globe, and needing ships in the North Sea, the Atlantic, Pacific and Indian Oceans, will fall a heavy burden in the event of coal being required for warlike purposes on any scale. The question of keeping up our supplies therefore, is held by some authorities to be almost as vital as the securing of our import of food stuffs, or of raw material for manufacturers; and certain it is that if our navy should at any time during war run short of coal for more than a short period, its effectiveness would be seriously crippled. At the same time we deprecate the means which those would employ who wish to curtail our exports of coal from this country to foreign countries.

Such a remedy, as we have previously intimated, would be far worse than the disease, if disease it can be called when the danger is altogether so problematical and remote. British coal owners are prepared to meet any demand which the Government desires to make of them. If the Government requires more coal in order to supply more coaling stations it has only to say so, and our coal fields will soon afford the extra quantity without the country's ordinary foreign trade being at all interfered with. British and Welsh colliery companies would indeed be only too pleased to have even more Government work than the very considerable amount which they at present possess; but certainly not at the cost of dislocating the existing foreign trade. All sorts of estimates are being once more put forward as to the probable limits of our British coal supply, but calculations under this head have been so often canvassed in our columns that to deal with them again would be superfluous. The fact that our output of coal during the past quarter of a century has increased from 120 to over 200 million tons is a fact which doubtless is gratifying, but which at the same time is by no means alarming to an enormous empire like ours, containing great regions of coal at present hardly touched.

We make up the coal deficiencies of nearly every other country, exporting so largely as we do, in addition to meeting our own enormous requirements. To interfere with this magnificent foreign trade for the case of a dimly problematical war scare would be insane, and would be following a policy which no friend of the British coal trade would for a

moment countenance. If more coal is wanted for the navy or the mercantile marine, let the demand be stated, and it can be readily met without dislocating a foreign trade in coal which it has taken years to build up and which is the admiration of the world. It has been calculated that by the year 1925 the British coal output will reach 280 million tons. We sincerely hope it will, and that a greater measure of prosperity may a quarter of a century hence be attending the efforts of the now rising generation of coal owners than even that which is being enjoyed at the present time.

CANAL OPPOSITION.

Those who oppose the construction of the Isthmian canal are few in numbers comparatively, but they are strong in influence and wealth. They have been able so far to obstruct necessary legislation and have succeeded in making innumerable delays in the progress of this great project. Who constitute the opposition and who furnish the funds for the constant lobby in Washington are well known, and it is plain, too, that their opposition arises from selfish motives. An instance of this is the recent speech made by C. P. Huntington, the railroad magnate, to the business men of Galveston, in which he strongly opposed the canal on the ground that it would not be a profitable undertaking for the country. In taking this position Mr. Huntington sets himself against the opinion of nearly the entire country with the exception of a coterie of transcontinental railroad men. Even to the interest which Mr. Huntington represents we believe the canal will be an ultimate benefit. In this the broad view is apt to be more correct than the narrow one. If the canal is the means of building up the interior country as is expected the loss to the railroads on through traffic will be many times compensated for by the enormous traffic of more profitable local business.

Regardless of Mr. Huntington and his associates, the country has decided that it wants an interoceanic canal and as a rule what this country wants it gets. The canal will be built.—The Lumber Trade Journal, New Orleans, La.

IRON ORE DISCHARGING AT BUFFALO.

Special Correspondence to the Marine Record.

At a meeting of the Harbor and Canal Committee of the Buffalo Merchants' Exchange held on Monday for the purpose of conferring with the managers of the ore docks of this city about the charge for unloading ore at this port during the season of navigation of 1900, the committee was informed by the managers of the various docks in this city that they had decided not to charge 25 cents per ton for unloading ore here, but to reduce the charge to 22 cents per ton, the same as at other ports on Lake Erie.

The Harbor and Canal Committee have been fearful that the extra charge of three cents per ton for unloading ore here would result in diverting some ore from Buffalo to other ports. The action of the dock managers in reducing the charge at Buffalo to the same price prevailing at the other ports on Lake Erie, will prevent this diversion, and was therefore most gratifying to the authorities of the Exchange.

THERE is now no question but that the double turret system of installation of guns on battleships is regarded with disfavor in the Navy Department. From a vote of four to one in the Board of Construction in favor of the double turret, the vote has now turned to four to one against the turret. Rear Admiral Bradford, Chief of the Bureau of Equipment, is the only member of the Board who now favors the superposed turret system. It has been definitely decided not to put this turret on any of the new battleships either in course of construction, or being planned in the Department. This turret was simply an experiment and it has not come up to expectations.

ASTRONOMICAL DATA FOR MAY.

Astronomical data furnished to the MARINE RECORD by the Washburn observatory:

Mercury is a morning star, but is not favorably situated for observation. On May 29 the planet passes through superior conjunction and moves to the eastward of the sun, thus becoming an evening star. But the highest of all the stars in the heavens is the planet Venus, which is seen in the northwestern sky throughout the evening. The planet is approaching its greatest brilliancy, and this is attained just after the close of the present month. A little less than three-tenths part of the disk will then be illuminated by the sun, but this is compensated for by the large apparent size of the planet, due to its comparative nearness to the earth. Some counterpart to this most brilliant star of the west is seen in the southeastern sky in the planet Jupiter, which is coming into prominence in the evening hours. It is followed about two hours later by the planet Saturn, which may be seen rising above the southern horizon in the latter part of the evening. Mars is still to be seen only in the early morning. The planet rises somewhat north of the east point of the horizon and is distinguished by its ruddy color.

The times of sunrise and sunset at Milwaukee for the month are as follows:

	SUNRISE.	SUNSET.
May 1	4:46	6:52
May 11	4:33	7:03
May 21	4:23	6:14
May 31	4:16	7:23

The times of the moon's phases are:

First quarter.....	May 6, 7:39 a. m.
Full moon.....	May 14, 9:37 a. m.
Third quarter.....	May 21, 2:31 p. m.
New Moon	May 28, 8:50 a. m.

The principal fixed stars visible during the month in the evening hours are:

To the west: Capella, Castor and Pollux, Rigel and Regulus. To the east: Spica and Arcturus.

A total eclipse of the sun occurs May 28th. It will be visible in partial phase over the entire continent of North America, except the western portion of Alaska. It will be visible also over the northwestern portion of South America, the north Atlantic ocean, northern Africa, all of Europe and a part of western Asia. The complete shadow of the moon will meet the earth's surface in the Pacific ocean off the coast of northern Mexico and travel eastward, crossing Mexico, a portion of the gulf and the southeastern part of the United States. It will continue on across the Atlantic ocean and sweep over the Spanish peninsula, the Mediterranean and the northern coast region of Africa to a point near the west shore of the Red Sea. The portion of the track most accessible to American observers will extend from the gulf coast southwest of New Orleans to the Atlantic coast near Norfolk. The entire width of the strip of country in which the eclipse will be total within the United States is about 47 miles at New Orleans and 55 miles at Norfolk. The duration of totality at the central line will be from 1 minute, 13 seconds near the former city to 1 minute, 40 seconds near the latter.

A number of fully equipped astronomical parties will be distributed along the path of totality in this country and others will be stationed in the European and African portion of the belt swept over by the moon's shadow. The principal observations to be made are spectroscopic and photographic directed towards the chromosphere of the sun and the corona. The phenomenon will be regarded with interest, however, in regions outside of the path of totality also. At Cleveland the beginning of the eclipse will occur at about 6:45 a. m., the ending at about 9:10 a. m., and very nearly nine-tenths of the sun's disk will be obscured by the moon.



CHICAGO.

Special Correspondence to The Marine Record.

Graham & Morton will launch their steamer Mary on Saturday.

The grain fleet got away from here during Saturday, Sunday and Monday.

Higgie & Chamberlane chartered the schooner Lake Forrest for corn to Port Huron at 2 cents.

The tug Alert is in the Great Lakes Tug Co.'s floating drydock, receiving some new frames and outside plank.

The tug E. G. Crosby left here Monday night for Duluth, to join Maytham's independent tug line at that port.

Capt. A. M. Elliott, of Chicago, is in Detroit, converting his barge William Jones into a three and after schooner.

Shippers are offering 2½ cents on corn to Buffalo and 2 cents to Port Huron freely this week for vessels to arrive.

Miller Brothers, shipbuilders, have the steamer Albert Soper and barge Alice B. Norris in their docks for bottom calking.

The Canada Atlantic Transit Co. are soliciting tenders from shipbuilders for the construction of four 6,000-ton steamers.

Capt. John A. Connelly has purchased Capt. Miles Barry's interest in the steamer Robert A. Packer, and is now sole owner of her.

The port of hail of the steamers John Plankinton, P. D. Armour, W. M. Egan and R. P. Fitzgerald have been changed to Chicago.

R. C. Penoyer, of Bay City, and Thomas J. Prindiville, of Chicago, purchased the steamer Charles Hebard and consorts Aloah and Annabell Wilson for \$85,000.

The steamers John Owen, Devereux, City of Glasgow and Germanic, and barge Emma C. Hutchinson arrived here light from Milwaukee last week, and loaded grain.

Capt. Peter Barry's steamer R. E. Burk has been inspected for the passenger excursion business, and will make daily trips on the drainage canal between Chicago and Lockport.

The steamer Pascal P. Pratt and consort Athens arrived here on Saturday night from Cleveland with 700 tons of bituminous coal for the Youghiogheny & Lehigh Coal Co.

Johnson & Knudson, shipbuilders, are giving the schooner John Miner part new ceiling, some new outside planking and rail, new hatch coamings, general repairs and calking.

The Goodrich Co.'s side wheel steamer Sheboygan, Capt. C. T. Bronson, arrived Wednesday from Manitowoc and left the same evening on her first trip of the season to Green Bay ports.

Joseph Lenert, the well-known vessel supply man at 157 Division street, has been doing a brisk business this spring supplying men of the fleet laid up here with the best of provisions. His motto is good weight and reasonable prices.

The piston of the engine of the tug Mosher broke as she was assisting in towing the Lehigh Valley line steamer Tuscarora up the river on Friday. The accident happened in the draw of Wells street bridge, fortunately no one was hurt.

The steamer Philetus Sawyer, Capt. John Nicholson, which arrived here Sunday from Pierport, Mich., with lumber, on her first trip this season, left here Monday night for Milwaukee, to go into drydock for searching up and calking.

The passenger steamer State of Michigan recently purchased by the Chicago & Muskegon Transit Co., arrived here Friday morning from Detroit, the first boat to arrive here from the lower lakes this season. She went into commission Saturday.

The Chicago and Michigan City line commenced their season on Sunday last with their steamer A. B. Taylor, and daily trips are being made between Chicago and Michigan City. On June 1st the steamer America will be put in commission, when double daily trips will be made.

The steamer Maritana brought the first cargo of iron ore to South Chicago for the season. The steamer is being unloaded at the new dock in the south slip, which was constructed during the winter. The dock is 1,100 feet long, and is fully equipped with machinery of the latest devices for the rapid handling of cargoes. The ore handlers of the Illinois Steel Co. are being paid 12 cents a ton for unloading this season, an advance of 2 cents over last year.

A settlement of the collision case in St. Mary's River, between the Mariska, Helena, and Gould, has been decided by Judge Kohlsaat. After the collision, in which the Gould and Helena figured, the Gould was libeled on account of the

Helena and her owners paid \$7,000 down. They then brought suit against the Mariska, claiming that the latter steamer was to blame for the Gould striking the Helena and seeking to recover the damages they had paid. The court ruled the owners of the Gould could not maintain a suit against the Mariska, as there had been no collision between the two boats.

The suit to recover damages for the lives of five members of the crew of the schooner Mary D. Ayer, which was lost in Lake Michigan after collision with the steamer Onoko, has been decided against the contestants. The Ayer was struck by the Onoko, which went back to render aid to the schooner's crew. The captain of the Ayer, however, decided that the crew would stick by the vessel, as she was not sinking and requested that a tug be dispatched to his help. A gale came up later and the Ayer was taken in tow by the steamer Jay Gould and afterward foundered, drowning all of the crew but two. Judge Kohlsaat decided that the collision between the Ayer and the Onoko was not the cause of the loss of lives and dismissed the suit. The Onoko had previously been judged at fault for the collision and has paid damages on the schooner.

CLEVELAND.

Special Correspondence to the Marine Record.

The steamer M. A. Hanna opened navigation through St. Mary's river. She had no difficulty in passing through.

The steamer Tampico, building at Craig's yard at Toledo for Mr. Arthur Hawgood and others of this city, will be launched Saturday afternoon.

On account of the number of accidents in Chicago river, the port is getting a bad name among the vesselmen, and they are charging a higher rate of freight.

The following masters have qualified for the season: S. A. Lyons, of the steamer Centurion; Frank Parsons, of the schooner Planet; and John Ward, of the John Ericsson.

Special arrangements are being made by Chaplain Jones of the Floating Bethel for memorial services for the late Capt. Thomas Wilson, to be held at 4 o'clock Sunday afternoon.

The wage scale fixed by the committee of the Lake Carriers Saturday gives to the seamen \$45 per month and to the mates \$10 more, with no change from last year's rates in the other positions.

The new concern to which the Conners syndicate, of Buffalo, is selling the Canadian Inland Transportation Co., is authorized to sell stock to the amount of \$3,000,000 and bonds for another \$1,000,000.

The freight situation is still a little unsettled, and not much, if any business is being done in chartering. The extreme dullness in the market is attributed to the amount of contract tonnage which is being done by the shippers.

The effort to wreck lock No. 24 of the Welland canal Saturday night was unsuccessful. The men who lowered the dynamite into the lock did not sink it deeply enough and it did not do the damage calculated. The harm done will not delay the opening.

The ore shipping season opened about ten days earlier than it did a year ago. The steamer Neosho came in from Escanaba with the first cargo of the season. Last season the first load of ore reached Lake Erie May 4. The ore men are not in shape to take wild tonnage. There is some Marquette and Escanaba tonnage on the market and boats from the first named port were offered at \$1.

Ore traffic for 1900 opened the latter part of last week. The first cargo for Lake Erie was loaded at Escanaba, April 21, and the first South Chicago cargo arrived from Escanaba on April 24; on the same day at Marquette two boats got to the docks. Grain out of Duluth is nominally 4 cents and from Chicago 2½ cents, which is less than the Lake Michigan ore rate in the latter case and more than the Lake Superior ore rate in the case of Duluth wheat.

By a recent ruling of the Treasury Department the uniforms of commissioned officers in the marine hospital service will conform practically to those used by officers in the regular army, and includes the adoption of shoulder knots on the dress coat, shoulder straps on the service coat, the monogram "U. S." on the collar, together with the device of the marine corps. Khaki uniforms will be used in southern states and at quarantine stations. The change marks the great advance in the prestige of the marine hospital service.

A large hollow steel engine shaft has just been shipped to Glasgow, Scotland, by the Cleveland City Forge and Iron Co. This is one of two shafts, contracts for which were sublet to the Cleveland City Forge and Iron Co., by the E. P. Allis Co. They are for the engines being built by the latter company for the Glasgow Street Railway Co., of Glasgow, Scotland. This shaft weighs 66,105 pounds. Its length over all is 289½ inches, and its greatest diameter is 36 inches. The bore is eight inches in diameter, the greatest diameter being ten inches.

The steamers E. C. Pope and W. H. Gilbert came in from Escanaba with ore cargoes yesterday. The Pope went to the C & P dock and the Gilbert will unload at the rolling mill dock. The ore men are not in the market for tonnage and they will not want any wild vessels for a couple of weeks. Shippers from the Lake Superior ports have not taken any tonnage and the rates have not been fixed. Most of the Rockefeller boats will get started this week. Some of them will take grain on the first trip and a number of the whalebacks will carry coal.

DETROIT.

Special Correspondence to The Marine Record.

The steamer M. A. Hanna was the first to pass up at Detroit this season.

The lightships for Gray's Reef, White Shoal and Simmons' Reef are in place.

The steamer Algoma is out of drydock at Manitowoc, Wis., and ready to resume her run.

The steamers Badger State and Empire State have been chartered for the Buffalo-Green Bay line.

Dan McGillvray, of Port Arthur, has been awarded the contract for building Clergue's ore dock at Michipicoten, the terminus of the Algoma Central Railroad.

The steamer Cadillac, bound down with grain, went aground on Wednesday on the head of Belle Island. The wrecker Saginaw floated her after ligetering part of her cargo.

The Straits of Mackinac were opened by two steamers at 4 p. m., April 18. One was a passenger and the other a grain freighter, and they passed each other going in opposite direction.

The water signals displayed last year by Capt. Westcott at Smith's coal dock and the Sandwich dock were placed for the first time this week. The depth of water at the Limekiln Crossing will be recorded several times a day for the benefit of down bound vessels.

The D. & C. steamer City of Alpena has opened the Mackinaw division of the D. & C. line. Her regular schedule will have her leave Detroit on Mondays at 5 p. m. and Fridays at 9:30 a. m., but to avoid all chance of putting the schedule in disorder, the first trip will be made 24 hours ahead of time.

Capt. Edward McGowen, who is dead at Port Huron, was one of the oldest, and before his retirement from active work, one of the best known shipmasters on the Great Lakes. He was born in Ireland on April 10, 1826, and came to the United States with his parents while still an infant, the family locating at Buffalo, N. Y., a year later moving to Erie, Pa. His career as a sailor began when he was a boy of 13 years, and when he reached the age of 20 he was master of the schooner Pontiac.

The launching of the Ravenscraig, on Wednesday, the first steel ship ever built at Port Huron, was marked by elaborate ceremonies. Ten thousand people were in attendance, the city schools being closed in honor of the event. The new boat was christened by Miss Morton, daughter of Capt. Ed. Morton, the managing owner of the line operating the steamer, known as the Volunteer Transit Co. Immediately after the launching the flags on the boat were placed at half mast, in respect to the memory of the president of the company, who died recently.

The New York-Conemaugh collision case, which has been in United States Court for nine years, will come up for a final hearing on May 14 before the United States Supreme Court. This time the dispute is over the division of damages, the high court having ruled once that the two boats should divide them. Judge Swan in the District Court decreed that the New York should stand 76½ per cent. of the loss, and the Conemaugh 23½ per cent. Charles E. Kremer, attorney for the New York, went to Washington and entered protest against this, urging that the Supreme Court decision meant an equal division. The amount of the damage is \$85,000, and it is said that the interest on this amount has been sufficient to pay the court costs and the attorneys' fees during the many trials.

DULUTH-SUPERIOR.

Special Correspondence to The Marine Record.

The Buffalo grain rate is dull at 3½ cents bid, with little demand in tonnage. It is estimated that 5,000,000 bushels, one fourth of the wheat in stock here, is under charter to be shipped.

The large steel steamer Hanna reached here on Tuesday and should be recorded as the first arrival of the season. The Pontiac and the Frontenac also got into Marquette, and the Presque Isle will be the next arrival at that port.

The grain rate has weakened and charters were made at 3¼ cents, though agents have been holding off for 4 cents. The lumber rate is still \$3, but shippers have been trying to break it to \$2.75, without effect, so far as I can learn.

Navigation is open at Port Arthur. The steamer Ralph left Fort William for Buffalo and she soon worked her way through the ice-field into open water. The weather is warm and clear. With the opening of Port Arthur the last port of importance on the Great Lakes is free. The opening came about a week earlier than was expected.

Notice has been sent out by the hydrographic office that under section 4 of the act of Congress of August 18, 1894, all vessels, until further notice, are required to slow down to six miles an hour when within either entrance to the Duluth ship canal, and not to exceed that speed from that point until they have passed 500 feet beyond the other entrance.

The northeaster has packed the ice-field into the head of the lake so that vessels have had considerable difficulty in getting out, though none have failed. The Aurania spent two hours in getting through the field and when she was two

miles out a leak was discovered, forcing her to turn and run back to the harbor. She will leave either Tuesday or Wednesday.

Since 1872 the lake tonnage passing through the St. Mary's Falls canal has increased 2,000 per cent. as against an increase in the same period of 100 per cent. in the foreign commerce and of 200 per cent. in the total exports of the United States. The registered tonnage passing through the canal in 1872 was 914,755, as against 21,958,347 tons last year. The important articles forming the great bulk of the business are grains and flour, iron, coal and lumber.

The syndicate headed by William J. Conners, of Buffalo, has sold out its franchise for the construction of elevators and warehouses at Montreal and Port Colborne, as well as a line of steamers and barges, to the Canadian Inland Transportation Co., and the price paid is said to have been \$1,500,000. The transportation company is now endeavoring to place a bond issue of \$4,000,000 for the prosecution of the enterprise. According to a prospectus just issued it is proposed to build seven steamers, fourteen barges, an elevator and warehouse at Montreal, at a total cost of \$3,995,000. The prospectus estimates the net earnings of the company in a single season at \$830,000.

The Duluth News-Tribune quotes J. B. Butchart, who has lived many years in the Lake Superior region, and who says that it seems to him as if the average quantity of ice in the lake of a spring is not as great as it used to be twenty-five or thirty years ago, and, further that winter has ceased making demonstrations the year 'round. "I recall," said Mr. Butchart, "that twenty-seven years ago next June ice was packed in between Marquette and Grand Island to the extent that it took us forty hours to go as many miles with a boat. That was on June 6, just twenty-seven years ago. There was a large amount of ice in the lake that spring. We do not have such quantities of ice any more in the lake. Snow fell at Grand Island on July 4, of the preceding year, twenty-eight years ago. Of course there was not a great deal of it but there was enough to give the occasion the dignity of a snow storm. I have seen six feet of snow on the level on Keweenaw Point of a winter and now-a-days if a winter produces four feet on the level it is considered big. One thing is certain, however, the snowfall on the south shore has not decreased to the same extent that the ice has in the lake of a winter, speaking of average seasons."

The Sunday News-Tribune says editorially: "The life-saving service of the United States is an institution of which the nation has cause to be proud. The crews on the seacoast and on the shores of the Great Lakes hold a distinguished place in the hearts of their countrymen. In consequence of this public sentiment, the life-savers have champions on the floor of Congress who are anxious to secure legislation that will recognize their services to humanity as well as to commerce. It is proposed to increase the wages of the brave, much-enduring men who form the crews in these stations. The committee on commerce of the House of Representatives has reported a bill, the main feature of which is an increase in wages. Instead of the \$60 per month that these crews now draw, it is provided in this bill that those on the lakes shall receive \$65 and those on the seacoast \$70 per month. The pay of our life-savers, even when increased, will be small enough for the service they render. Every man must be an expert sailor. Their life is one of hardship, danger and, what is perhaps harder to endure, long, humdrum, weary waiting for the times when their help will be necessary to save men, women and children from the dangers of the deep. This is not a service in which the government can afford to be stingy. The life-saving crews earn for the people huge dividends on the capital invested in them. Last year they saved \$6,261,900 in property out of \$8,104,640 that was imperiled and rescued 3,903 persons, with a loss of only fifty-six lives. These figures do not include 293 casualties to sailboats and other small craft, in which the crews saved 671 persons, seven being drowned. There were at last accounts 265 life-saving stations in the service, 193 on the Atlantic coast, 15 on the Pacific, 56 on the lakes and one at the falls of the Ohio.

BUFFALO.

Special Correspondence to The Marine Record.

The Erie canal was formally opened Wednesday.

The steamer Yale, aground here was released on Wednesday, having suffered no damage.

The steamer Neosho, which brought the first cargo of ore down the lakes Tuesday, had on board 2,347 tons.

The steamer India, of the Anchor line, left here this week on her first trip of the season up the lakes. Close after her will come the steamers China and Japan, of the same line, and the three steamers will run as near on schedule time as freight conditions will permit until June 1, when the regular passenger service and summer schedule will be inaugurated.

The harbor coal handlers are still without an understanding as to the season's rates. Some meetings have been held but nothing came of them and now a delegation of the men is going about with a contract for signatures. It provides for 45 cents an hour for lightering work, and 21 cents for regular coal-handling. Shippers say that this is more than the scale agreed to by the men at Cleveland, where the hard-coal rate was fixed at 20 cents.

Hitherto the maps issued by the lake survey have been kept in Detroit at the headquarters of the survey, and could

only be obtained from there. An order has recently been issued from the War Department requiring these charts to be kept on sale at the United States Engineer Office in Buffalo. Major Symonds has made requisition for a supply of the charts, and as soon as they are received he will be able to supply all demands therefor.

I hear from Tonawanda that the Maytham Wrecking and Towing Co. has established an office with Edward G. Riesterer as general manager. The independent line has a strong fleet of tugs, a good and efficient force of men and they are making a strong bid against the trust for the towing at the Tonawanda ports this season. Already they have closed contracts with the Tonawanda Iron and Steel Co., William H. Sawyer Lumber Co., and A. Weston & Son for the season's towing, which represents about half of the towing done at Tonawanda.

Steamers of the Anchor Line this season will call at Fairport, O., in connection with the Baltimore & Ohio Railroad. For a number of years the Anchor Line did the Baltimore & Ohio lake business, and then for a couple of seasons that road had its own lake line. It now goes back to the original arrangement. The Anchor Line, however, will not solicit freight for the Baltimore & Ohio, but will only carry it. The steamer Baltimore will continue to trade between Fairport and Chicago in connection with the Baltimore & Ohio. At Erie and Buffalo the Anchor Line has the same connections this season as last.

W. E. Fitzgerald, of Milwaukee, and J. C. Wallace, of Cleveland, officers of the American Ship Building Co., were here this week inspecting the plant of the Buffalo Drydock Co., which was purchased by the consolidated yards. It was decided to rebuild the two docks, making them 600 feet in length, so as to accommodate the largest boats on the lakes. Civil engineer Powell, of Chicago, was here also to inspect the plant for the company. The machinery in the Wheeler yard at Bay City will be brought here and installed in the plant as soon as possible, although it is not expected to close up the West Bay City shipyards, but, the equipment there was too extensive for the work required at the present time.

Now there's trouble among the freight handlers. Among the members are some of the Irish and other English speaking freight handlers who belong to local No. 115, a majority of the members of which are Poles. The Poles claim to see in the new local an attempt to play into the hands of the contractors and counteract the efforts of the old union to have the men hired direct by the transportation companies. The new union has about 500 members. A committee was also appointed to confer with Contractor Wm. J. Conners to regulate the scale of wages for the ensuing year. This committee is as follows: Cornelius Leary, John Lynch, Gus Risch, Michael Joyce and Edward Hartnett. Officers of the new union said it wouldn't make any difference whether the men were hired by contractors or by the companies direct, as long as 30 cents an hour was paid.

The damage done to lock No. 5 in the Welland canal, by the dynamiters is not serious enough to delay the opening of the canal. A few castings to the head gates must be replaced. The explosive was placed in two grips, which the men lowered into the lock. It is evident that they did not get them down far enough or the dock would have been wrecked. No. 24 is the lock which would cause the greatest trouble if it had been destroyed. The level above is nearly a mile long, and there is a drop in the lock of sixteen feet. The effect of letting this immense volume of water loose would have been to wreck the lower levels of the canal. Houses were shaken and windows broken by the concussion a mile away from the lock. Why the attempt should have been made is still unknown. The canal will open on Wednesday, as previously ordered. Canadian authorities are at present as much in the dark as to the motive of the dynamiters as they were on Sunday. They are also without positive knowledge of the identity of the prisoners. Three theories have been advanced—that the men were hired by Boer sympathizers; that Fenians instigated it, and that the men were hired to do the job by enemies of the Connor's syndicate, hoping by the destruction of the Canadian waterway to prevent for this season the passage of any grain through to Montreal. The three prisoners were taken to Welland late yesterday afternoon and lodged in the county jail. The prisoners demanded an immediate hearing and examination. Their requests and the demands of their counsel to see them were ignored.

MARINE PATENTS.

Patents issued April 24, 1900. Reported specially for the MARINE RECORD. We furnish complete copies of patents at the rate of 10 cents each.

647,944. Tide power. M.D. Compton, East Orange, N. J.
648,041. Tide-utilizing apparatus. John Meuli-Hilty, Maerstetten, Switzerland.

648,055. Water-wheel. W. D. Reynolds, Mountain Home Idaho, assignor of one-half to W. F. Smith, same place.

648,158. Turbine wheel. Heinrich Zoelly, Zurich Switzerland.

648,218. Steering mechanism. Alfred Piedfort, Paris, France.

648,352. Connection for shafts and hubs. E. A. Blanton, Jr., Ridley Park, Pa.

548,366. Oil distributing projectile. J. C. Simmonds, New York, N. Y., and Alonzo Peniston, Baltimore, Md.

DESIGN.

32,547. Vessel hull. W. B. Motheral, North McGregor, Iowa.

FLOTSAM, JETSAM AND LAGAN.

Arthur Sewall & Co. will build two big four-masted steel ships on contract. These will be in addition to the two they will construct for themselves.

The ore boats have reached Escanaba. Arrangements are being made to test wireless telegraphy between Milwaukee and two light houses near there.

W. B. Custead, of Austin, Texas, has organized the Custead Air Ship Co. and will attempt to navigate his "vessel" from Texas to New York in July. Mr. Custead believes he has solved the problem of aerial navigation.

Jas. H. Harris, manager of the Heine Safety Boiler Co., Chicago, is one of the best public speakers and most versatile writers the Marine Engineers' Association has ever had. Mr. Harris was the national secretary of the organization for many years.

George W. Roby, president of the Roby Transportation Co., died last Monday at Santa Monica, Cal., where he went several weeks ago. The Roby Transportation Co., owns the George W. Roby and the L. C. Waldo, the latter one of the finest boats of her class on the lakes.

Smooth-on compound for shipbuilders, engineers, machinists and others is fully described in a new catalogue just issued for distribution. It comprises thirty-two pages and contains much valuable information. Copies can be had from the Smooth-On Mfg. Co., Jersey City, N. J.

Fred. Metcalf, treasurer of the Chase Machine Co., 111 Elm street, Cleveland, O., has a long letter in the MARINE RECORD of April 5, in which he announces that the Metcalf patent automatic steam towing machine, designed and patented by him, is now ready to place on the market.—The American Shipbuilder, New York.

A Washington dispatch says that Congressman Edgar Weeks, who has kept pounding away for the life savers of the Great Lakes, had the satisfaction Tuesday of hearing a report ordered in which the salaries of the men will be increased \$10 a month, increasing the pay from \$60 to \$70. His attempt to get the time service extended was not so fortunate, but he will make another try at that.

The International Navigation Co., is the name of a new company just organized with headquarters at Duluth. It is the most important company to come into business on the Great Lakes, for its boats will be built with a view to double service on salt and lake water. The idea is to pass the boats from the lakes through the canal to the Atlantic and to foreign ports without unloading. In the construction of ocean steamers the engines are always placed amidships, while the best results are obtained with the engines aft. In the new boats the lake construction will be adhered to.

The big grain fleet at Chicago has been having a hard time of it and the matter may finally get into the courts. The new drainage canal has so lowered the water in the river that the boats have been unable to move and the current has been made so swift that tugs have difficulty in handling even the lighter craft. One collision due to the swift current took place yesterday. The gates of drainage canal were ordered closed yesterday in order to endeavor to raise the water enough to let the grain fleet out. A northwestern wind scheduled for today, it is thought, will help fill the river with water.

Consul Skinner in reply to an inquiry from a Chicago correspondent says: "The principal difficulty in laying down American coal here is in obtaining tonnage for the transport. Many papers have contained accounts of large transactions in American coal, but so far, although we understand that some coal has been fixed for the northern ports of France, there has been only one contract made for delivery at Marseilles. This, we believe, is for 45,000 tons of New River coal, the purchasers being the Paris, Lyons, and Mediterranean Railway Co. The business was done about three months ago, and we understand the conditions were 28s. (\$6.80) per ton c. i. f. Marseilles, landed weight, with a guaranty of 20 to 23 per cent. of volatile matter, 4 to 5 per cent. ash, with a right of refusal if ash exceeded 6 per cent. the coal not to contain more than 30 per cent. of small as tried on a screen of 30 millimeters at an angle of 45 degrees, 600 tons a day delivery, payment at thirty days' date from the end of month of delivery at Marseilles."

Admiralty—Collision—Negligence.—At a point in a river where the dredged channel was 400 feet wide, a string of scows was anchored, the anchor being some fifty feet outside the channel, to the west thereof, and the distance therefrom to the stern of the last scow being between 375 and 400 feet. The incoming tide swung them directly across the channel. There was no light on any of them, unless on the one nearest the anchor, and the preponderance of the evidence was that there was none on it, the officers of five steamers going down the river during the night, with proper lookouts, testifying that there was none. Four of these steamers, three of them drawing not over 8 feet of water, and the other 13 feet, avoided the tow by making a sharp deviation to the eastward, the latter having barely room to get by, and her stern narrowly clearing some rocks. Immediately on report of the scows by the lookout of the fifth steamer, which was heavily loaded and drew 17½ feet of water, her engines were reversed, her helm put to port, and she struck the scow nearest the anchor. Held, that no fault of such steamer contributed to the collision, even if the perilous alternative of going to the eastward might have been more fortunate. *Ross vs. Merchants and Miners Transp. Co.*, 99 Fed. Rep. (U. S.) 793.

SHIPPING FROM EARLIEST TIMES.

At a meeting held on March 12th, at Stratford, England, Mr. A. Boyle (the chairman of the council) presiding, Mr. J. Adamson read a paper on the "History of Shipbuilding," in the course of which he said previous to the establishment of "Noah's Shipbuilding Yard," in the far East, doubtless experience had been gained in the building of small boats, but the order received by Noah was, as far as we know, a great advance over what had previously been built. The Ark constructed by Noah was approximately about 540 feet long, 90 feet broad and 54 feet deep, with three decks and possibly a lower hold, the capacity inside being about 1,300,000 cubic feet, while the tonnage would be about 18,000 tons. The proportions of the Ark were: Length to breadth 6 to 1, length to depth 10 to 1, and draught about 27 feet in fresh water. That the proportions of fast sailing ships of modern times had been approximately the same as those of the great ship of Noah showed that experience had proved the proportions to which he worked in his design were remarkably good and true. The dimensions of the largest vessel now afloat, the "Oceanic," were 704 feet long, 68 feet broad and 49 feet deep, with a tonnage of 17,000. These two vessels were placed in contrast to show their relative sizes, the one built of gopher wood, without means of propulsion, the other built of steel and fitted with all the latest machinery and appliances for propelling her with the least expenditure of coal and the greatest comfort to travelers. The information available as to ships built in the early ages of the world was very slender, but allusions in the Old Testament showed that the art of shipbuilding and the science of the navigator were well known even before the time of Solomon. The Egyptians had boats chiefly, if not entirely, for river navigation. The Argo, in which Jason and his 54 comrades sailed, was usually referred to as the first vessel of any size. She was propelled by fifty oars, and probably had a square sail to take advantage of fair winds. The dimensions of the Argo had not been handed down, but some years later the Egyptians owned a vessel named the Isis, 180 feet long, 45 feet broad, and 43 feet deep. The ships of Israel in the days of Jehosaphat were somewhat unsuccessful, as we read that, being large and cumbersome, the fleet which was about to depart on a voyage to Pontus was wrecked in one of the frequent storms of the Levant. The ships of Solomon and of the Phoenicians ventured far from their native shores. The Phoenicians seemed to have sailed round Africa from the Red Sea to the Mediterranean, making voyages of three years duration. Heiro, of Syracuse, was said to have built a ship of about 4,000 tons burthen, but doubt was cast upon the tonnage, the laws relating to which at that time were probably less exacting than now. The Chinese appeared to have retained to the present day the same style of ship which they had 3,000 years ago. The Chinese junk was well known, and the remarkable way in which the Chinese had almost stood still for hundreds of years had often been pointed out. There was evidence to show that at an early period the products of India, China and Ceylon reached the market place of Alexandria, and from the representations of the vessels then in use they were very similar to those in use by the natives at the present day. The Phoenicians were well situated at the east end of the Mediterranean for purposes of trade and commerce, and by their enterprise and daring grew rich and prosperous. Iron and copper mines were within their territory, while from Britain they obtained tin to mix with the copper for the manufacture of brazen vessels. Besides the trade and commerce carried on by the Phoenicians as shipowners, their caravans were known far inland, and by means of colonies they added to their markets. Carthage for a time proved the colonizing adaptability of the race, and even appeared to outshine the original stock by land and sea. For 700 years Carthage flourished, holding Spain, where New Carthage was founded, which became a base for operations against Rome in the days of their greatest generals, Hamilcar and Hannibal. The expeditions of Alexander the Great opened up vast territories to the explorers, and were instrumental in bringing the eastern and western hemispheres into commercial relationship. The fleet of Alexander, fitted out for his expedition to the Indus, consisted of about 1,000 vessels, of which 30 or 40 were ships of war. This fleet started about the 1st of October, B. C. 326. The death of Alexander left incomplete the scheme of commercial centers he had planned, and on the day he departed this life, although beset by sickness, he continued to direct his officers as to the movements of the fleet, but when the master spirit passed away, the empire, and the intended plans, fell to pieces.

The Romans were not sailors by choice, but found it necessary to carry on their commerce and warfare to some extent by sea. The Vikings now came upon the scene as most intrepid and daring sailors, but they were more piratical than commercial. They appeared to have had vessels 100 feet long, well made and skillfully put together. These vessels they managed with ability, as the speed with which they seemed to have sailed from shore to shore testified. William the Conqueror, to overcome the Danes, had a fleet of war vessels built, after which commerce again moved forward. The crusade, with the large fleet of vessels taken by Richard to the Levant, served to give a great impetus to the seaborne trade of England and France, laws being framed for the regulation of ships and all connected with them in their traffic. The first shipping code was then established, about the year 1200. The arrangement made in the reign of Henry the Third again started the onward tide of prosperity, and shipowners and merchants rejoiced to carry on their business, while the people reaped the benefit in having placed within their reach articles from across the seas hitherto beyond them. Edward the Second helped forward the maritime progress of England to some extent. The fleet built and partly chartered by Henry the Fifth, 1,500 vessels, led to the subsequent claim of England as having the dominion of the sea. The invention of the mariner's compass in the 14th century rendered future enterprise more certain, and then began the work of making the whole habitable globe a market place. Mr. Adamson then dealt with the conditions regulating the cost of transit by sea.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo.....	88,000	105,000	20,000	29,000	138,000
Chicago.....	12,387,000	7,049,000	1,811,000	352,000	.....
" afloat.....	376,000	1,035,000	27,000	.....	.....
Detroit.....	368,000	110,000	32,000	6,000	2,000
Duluth.....	18,142,000	1,472,000	364,000	441,000	255,000
" afloat.....	906,000	.....	.....	.....	.....
Fort William, Ont.....	3,787,000	.....	.....	.....	.....
Milwaukee.....	229,000	11,000	1,000	.....	.....
" afloat.....	.....	.....	.....	.....	.....
Montreal.....	91,000	50,000	751,000	23,000	46,000
Port Arthur, Ont.....	243,000	.....	.....	.....	.....
Toledo.....	508,000	1,935,000	152,000	3,000	.....
Toronto.....	65,000	.....	8,000	.....	44,000
On Miss. River.....	.....	234,000	65,000	.....	.....
Grand Total.....	54,814,000	24,114,000	7,301,000	1,279,000	1,063,000
Corresponding Date, 1899.....	29,179,000	28,101,000	10,426,000	1,330,000	1,714,000
Increase.....	.....	.....	.....	.....	192,000
Decrease.....	459,000	675,000	242,000	32,000	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

"VERY LIKE A WHALE."

In the days of pig tails and long voyages, many travelers' tales were palmed off on the unwary with respect to the dwellers in the deep sea. Steam has robbed old ocean of very much of its poetry, although the romancer, following in the footsteps of De Rougemont, still finds a ready sale for a recital of the things "whereof we know, they were not and could not be so." Horace marveled mightily at the daring of the ancient navigators who first gazed with unmoved countenance upon swimming monsters of unwonted appearance. Scylla and Charybdis, Ulysses and his bag of winds have gone the way of other Homeric myths. Just recently, however, the whale has been having quite a boom; and some of the stories set forth in unctuous phraseology with respect to this leviathan of the deep certainly leave nothing to desire in the matter of thrilling adventure. A few months served as boy on board of a sailing whaler is deemed more than sufficient to have grasped the whole details of the whaling industry, and to put to confusion the conclusions of scientific authorities. "Ye unmerciful yce" of the old-time Arctic navigators is less troublesome to whalers now that steam and the screw propeller are pressed into the service. Biscayans or Norwegians first found whaling a profitable employment. Hull was once the center of the United Kingdom whaling industry; but the whaling fleets gradually decreased in numbers, and the few ships still left to us are now sailing out of Dundee and Peterhead. The Americans soon surpassed every other race in the conduct of the whale "fishery." Three score years ago, they had 800 whaleships at work; 30 years later, this number had dwindled to 300, of 68,000 tons; and to-day the United States owns only 48

whalers, of 11,000 tons. Confederate cruisers found the whaleship an easy prey, having an unequalled capacity for burning purposes. In 1865 the Shenandoah burnt 30 Federal whaleships in the Behring Sea. At the commencement of the nineteenth century, whale oil was worth £60 per ton, and whalebone about £400 per ton. To-day, mineral and vegetable oils have run the price of whale oil down to £20 per ton, but whalebone may touch about £2,000 per ton. Probably the record whaling return is that of the American barque Onward, Capt. Allen, which returned home to New Bedford from a cruise extending over 41 months with a cargo worth £55,000. Her master's share is said to have been £6,500. Occasionally, a whale asleep on the sea surface becomes a source of trouble to a peaceful cargo carrier just when least expected, and even a big warship is not exempt. In 1891, H. M. S. Immortalite, steaming 12 knots, on a passage from Arosa Bay to Gibraltar, was stopped dead by collision with a whale. She had to go astern in order to clear the fleshy mass from her prow. One of the Russian volunteer fleet—the Petersburg—had an even more exciting experience in the Indian Ocean. A sudden shock was felt; the vessel's way was stopped; and the sea astern was soon seen to be tinged with the life-blood of two enormous cetaceans. One had been cut in twain by the vessel's steel stem; the other beaten to death by blows of the huge propeller. In 1887, the liner Waesland, from Antwerp to New York, ran right into a whale and killed it. Just four years later, the Anchor liner Ethiopia, when 800 miles from Sandy Hook, running 16 knots, cut a sleeping whale in halves, and a panic seemed imminent among the passengers. Towards the close of 1892, the White Star liner Germanic, in mid-Atlantic, ran down and killed a sleeping whale. In 1893, the steamer Abana, from Dundee to New York, collided with a sleeping whale. Neither ship nor cetacean suffered, except from shock. Still more recently, in 1897, the Aberdeen White Star liner Thermopylae, when off the cape of Good Hope, ran into a whale which she apparently severely wounded, as the water became deeply tinged with red. In March of that year, the Latona, bound from Santos to Barbados in ballast, had a most curious experience. When 150 miles north of Demerara, she suddenly stopped without any apparent reason. On looking over the stern, by the dim light of the stars, a small whale about 25 feet long was observed frantically struggling in the aperture in which the propeller works. The ship was going 10 knots at the time, and the propeller making 72 revolutions per minute. By working the propeller gently backwards and forwards, the intruder was simply sliced up into fragments, and eventually cleared. In August, 1896, the then new screw steamer Seminole, of New York, on her way from her home port to Florida, ran into a school of whales. She struck one and broke its back. It began to spout blood, and immediately five of the other cetaceans, varying in length from 75 feet to 100 feet, made a mad rush for the steamer. The impact caused her to tremble from stem to stern. Four times in succession did these whales withdraw from the ship and again attack her. Then they gave up the contest, some being seriously injured, as evidenced by the spouting of blood which followed. In 1895 the brigantine Handa Isler, with a cargo of timber, arrived at Sydney, N. S. W., from New Zealand, considerably damaged. About a week previously, two 60-foot whales appeared to be crossing the vessel's bows, but swerved suddenly towards her broadside. One went under the keel, without damage to herself or the ship. The other rammed the brigantine fairly amidships, injuring both parties to the collision. In July, 1875, the Cunardar Scythia, then commanded by Capt. W. H. P. Hains, R. N. R.—who afterwards had the Campania, and has since gone to his rest, struck something harder than water between Ballycotton Island and Roche's Point. A whale was soon observed to leap out of the sea, with a 12-foot gash in its side. On arrival at Queenstown, a blade of the Scythia's propeller was found to be broken, and she returned to Liverpool after transferring her passengers. On the way back the dead whale was actually picked up, and towed to Liverpool—thus confounding the honest doubters who thought the yarn was "very like a whale." The fish was 56 feet long; the skeleton weighed three tons; and the blubber filled 65 casks. Many similar instances are not far to seek.—The Syren and Shipping, London.

Capt. Ambrose C. Fulton, of Davenport, Iowa, has written a personal narrative of life on the western river steamboats and at sea, entitled "A Life's Voyage." The book contains numerous illustrations.

REPORT OF THE COMMISSION ON THE CHICAGO RIVER.

The following extracts are taken from the report of a commission appointed by the mayor of Chicago, on June 26, 1899, in accordance with the terms of a resolution of the city council of June 19, 1899, to consider ways and means of lowering or removing the tunnels under the Chicago river and removing the center pier bridges:

It is obvious that the city has the power and owes the duty to remove all obstructions to navigation that exist in the river, which must ever be a free waterway to the commerce of the United States. This view of the power of the city over the street railway companies is concurred in by the corporation counsel, for when requested for an opinion "whether the city of Chicago can force the surface railway companies, at their own expense, to lower the tunnels," he replied that "the answer to your question largely depends on whether the railway companies shall, in case of the tunnels being lowered in accordance with the act of Congress of March 3, 1899, continue to use them. If the railway companies shall definitely decide to continue their use, it is my opinion that the city can compel the companies to bear the expense of the contemplated work."

In view of the foregoing considerations, your commission respectfully recommends that a special committee of the city council be appointed to bring about the lowering of the tunnels. The removal or depression of the tunnels should not be allowed to become a part of the larger question of the renewal of the franchises, for this would make possible a delay of several years, and further delay cannot be tolerated, and also because the traction companies should not be permitted to use the tunnel matter to confuse the franchise question.

After the tunnels have been depressed, the center pier bridges will be the one great remaining obstruction in the Chicago river. So long as these bridges stand the navigation of the river will be restricted to vessels of the smaller class. These vessels are now rapidly disappearing and will constitute but a small fleet by the time the center pier bridges are replaced, even though this work be accomplished with the greatest possible expedition. It is a fact too well known by you to require enlargement here, that the lake vessels constructed during the last three or four years, and those that are now building, almost without exception, exceed 400 feet in length. At present vessels of this size are absolutely precluded by their size from even entering the north branch of the river, and can only proceed to 12th street on the south branch. With the removal of the center pier bridges and the straightening, widening and deepening of the river now well under way by the national government and the sanitary board, the river will be navigable by the largest vessels. These center pier bridges must be replaced with bridges of the bascule type, and of the full width of the street, for only by structures of this width can congestion of traffic over the river be avoided. Owing to the fact that the finances of the city of Chicago are in such condition that no money is available for these improvements, and there being no prospect in the near future of increasing the revenue of the city so that it can pay the large sums which these contemplated improvements will require, we recommend and strongly urge that legislation be enacted at the earliest possible moment, enabling the city to increase its bonded indebtedness to such an extent that the city authorities can proceed with these and other permanent river improvements.

It has often been stated by authorities on transportation that the Chicago river is the most important navigable stream for its length on the globe. This may appear a strong statement, but that it is not an exaggeration will appear from a comparison of the vessel tonnage moved on our river with that moved on the great artificial highways of the world, in whose construction millions upon millions have been expended, and whose successful opening has been regarded as great national achievements:

	Year Ending	Total Vessel Ton'ge
Chicago River.....	Dec. 31, 1898	10,751,879
Welland Canal.....	Dec. 31, 1896	1,279,987
Erie Canal.....	Dec. 31, 1898	2,338,020
Kaiser Wilhelm Canal.....	Mar. 31, 1898	2,469,795
Suez Canal.....	Dec. 31, 1897	7,899,373
St. Mary's Falls Canal.....	Dec. 31, 1898	18,622,754

In the subjoined table the entrances and clearances of the Chicago river are compared with those of the other great

harbors of the world. This table and the preceding one should make it clear to all how intimately the commercial life of Chicago is linked with the maintenance of the Chicago river:

TONNAGE OF THE PRINCIPAL EUROPEAN AND AMERICAN PORTS ENTERED AND CLEARED IN THE FOREIGN TRADE.*

Port.	Year Ending.	Vessel Tonnage.
London.....	Dec. 31, 1897	15,797,659
New York.....	June 30, 1898	15,348,042
Antwerp.....	Dec. 31, 1897	12,269,764
Chicago River.....	Dec. 31, 1897	11,364,223
Liverpool.....	Dec. 31, 1897	11,261,051
Marseilles.....	Dec. 31, 1897	7,908,971
Boston.....	June 30, 1898	3,571,629
Baltimore.....	June 30, 1898	3,479,331
New Orleans.....	June 30, 1898	3,240,517
Philadelphia.....	June 30, 1898	3,228,738
San Francisco.....	June 30, 1898	2,215,838
Galveston.....	June 30, 1898	1,571,302

To sum up, the situation is as follows: On the north the all rail and rail and water lines are bending every effort to attract commerce from Chicago, and from Duluth and West Superior the rail lines running to the south and southwest are pushing farther and farther into Chicago territory; the all-rail lines to the seaboard running south of Chicago are making greater and greater inroads into traffic that belongs to Chicago, and finally the gulf roads have pushed so far north that they in conjunction with the roads extending southwest from the head of Lake Superior have almost, if not completely, shut out Chicago from the territory west of the Missouri river, and have made very serious inroads into the traffic of the states east of this river.

The facts have now been stated and we are at liberty to look for the explanation of the decline of Chicago's power. The explanation is not far to seek. It is largely found in the decadence of the Chicago river. Almost without exception the great railroad systems that radiate to the northwest, the west and the southwest have their terminals on this river. It is folly to talk of all these systems establishing additional terminals on the Calumet, for the enormous expense involved would be prohibitive. Several railroad systems, sooner than secure new terminals on the Calumet, would divert commerce through other ports or channels, and some of them have already begun to do this.

It is impossible for us to discern how Chicago can continue to attract traffic from a large radius of country or remain the distributing gateway of the territory far to the northwest, west and southwest without the advantage of low lake rates. Chicago owes her dominant position to the lake, and it is only by improving her harbor that she can maintain her position. The railroads running to the seaboard to the north and to the south of Chicago can carry produce just as cheaply as the railroads passing through Chicago, and if we rely upon our railways alone, we shall surely find ourselves progressively confined to narrower and narrower limits. If we do not improve our waterway so as to admit the largest vessels, which are the cheapest carriers, we shall soon find the ports to the north making great inroads into territory that once belonged to us. No time should be lost in making this important improvement, for it is one thing to hold business, but quite a different matter to regain business when once it is lost. Resting in security we shall soon repeat New York's experience, and in less than a decade we, too, may be sending commissions about the country seeking the reasons why our commerce has left us.

EUGENE TYLER CHAMBERLAIN, Commissioner of Navigation, relieved himself of the coil of single blessedness on Tuesday last, and has become a benedict, by wedding Mrs. Mary Lee Chapman, in the rectory of St. Paul's Episcopal church, Washington, D. C. We wish the newly wedded couple a long, happy and prosperous future.

A DIRECTOR of the Standard Oil Company has recently published in The Independent, an article declaring trusts to be good for the workingman. To the May Century, Andrew Carnegie contributes an essay, taking the same ground. In this article, which bears the title "Popular Illusions about Trusts," Mr. Carnegie argues that the evils of trust are generally self-corrective; that no trust can live long unless it secures a virtual monopoly of the commodity it deals in; and that "the only people who have reason to fear trusts are those who trust them." In the same magazine "The Real Danger of Trusts"—their menace to the independence of the individual and the State—will be pointed out in a vigorous editorial.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Loss of Cargo and Passengers' Effects—Exemption from Liability under Harter Act.—Where before entering upon a voyage, a ship was surveyed by three competent and experienced men, employed respectively by the owners and the insurers, and was by all pronounced staunch and seaworthy, and the owners employed men of skill and experience to overhaul the vessel and make all needed repairs, to supply and equip her for the voyage, and stow the cargo, and also an experienced master and crew, and no neglect or mistake in such particulars is shown, the owners must be held to have exercised due diligence to make the vessel seaworthy, and properly manned, equipped, and supplied, and to be relieved from all liability on account of loss of property, by section 3 of the Harter act. The *Jane Grey*, 99 Fed. Rep. (U. S.) 582.

Salvage—Action against United States—Jurisdiction of Circuit Court.—Act Cong. March 3, 1887, (24 Stat. 505), gives jurisdiction to the court of claims, inter alia, on any contract expressed or implied, with the United States, or for damages, liquidated or unliquidated, in cases not sounding in tort, in respect of which claims the party would be entitled to redress against the United States, either in a court of law, equity, or admiralty, if the United States were suable. Section 2 gives the federal district and circuit courts concurrent jurisdiction with the court of claims as to matters named in the preceding section, except that the district courts have jurisdiction not to exceed \$1,000 and, the circuit courts between \$1,000 and \$10,000. Held, that a claim against the United States for salvage in the sum of \$10,000 is within the jurisdiction of the circuit court. *United States vs. Morgan*, 99 Fed. Rep. (U. S.) 570.

Tugs—Injury to Tow—Negligence.—A barge in tow drawing 24 feet of water, proceeding along and a little to the west of the middle of a passage $1\frac{1}{4}$ miles long and $\frac{3}{4}$ of a mile wide, when about half way through, struck on the most easterly boulder, 19 feet below the surface in a shoal commencing 750 yards from the easterly side of the channel, at a point where it was 1,300 yards wide. The shoal was not known to navigators. The government charts showed at this point, midway between the shores, a channel $\frac{1}{4}$ of a mile, in which the water was nowhere less than 26 feet deep; and the Atlantic Coast Pilot described the channel as well buoyed, and therefore particularly safe, and directed that it be entered "about midway" between the shores. At the time of the accident the masters of the vessels supposed they were about the middle of the channel. The shoal contained a number of rocks less than 21 feet below the surface, which were surrounded by, and had between them, water 27 feet deep. Held, that, in the absence of evidence that the tug went out of the channel usually pursued by navigators, it was not liable. The *Nathan Hale*, 99 Fed. Rep. (U. S.) 460.

Shipping—Charter Parties—Clean Bills of Lading.—A British ship was chartered to carry cotton to Germany in November, when storms are likely to be encountered. For a distance amidships, and extending from side to side, was an upper deck house, supporting the officers' bridge, in which erection were gaps forward and aft of the bridge, where the main deck was left open. The covering over the midship part of such deck space had fore and aft passages on each side leading out, which were called "alleyways." At the front end of each alleyway was a door opening out on the open main deck. Bales of cotton were placed as close as possible on the outboard side of such passage, so as to leave a narrow gangway alongside the cotton for the passage of the crew and engineers. The spaces were covered over, but could not be permanently closed in, as the doors in the end have to be opened by the crew in passing in and out. The spaces could not be made watertight, because they could not be covered by tarpaulin covers, and the doors had to stand the full impact of the seas which might sweep over the deck. Held, that the master of the ship was justified in refusing to give a clean bill of lading for the cotton stored in the alleyways, under the general rule that a clean bill of lading negatives any carriage except under deck. The *Kirkhill*, 99 Fed. Rep. (U. S.) 575.

Construction of Charter Party.—A charter party of a British ship provided that bills of lading were to be signed when presented, without prejudice to the charter party, for any portion of the cargo, and at any rate of freight. It also provides that the whole of the steamer, including cross bunkers, bridge, deck bunkers, alleyways, peaks, lazarettes, space under bridge, deck, etc., consistent with the steamer's seaworthiness, and all covered-over spaces on deck, should be placed at the disposal of the charterers, for their sole use. The English Board of Trade, in its official manual to surveyors, directs that permanent erections, with one or more openings in the sides or ends, not fitted with doors, or other permanently attached means of closing them, shall not be measured or included in the tonnage. The charter party gave the net registered tonnage, and guaranteed a certain number of cubic feet "of actual cargo space available for cotton in bales," in consideration whereof freight was to be paid at a certain sum per ton, net register, British measurement. Held, that the clause placing "at the disposal of the charterers" certain additional deck spaces did not impose on the master of the ship the duty to sign clean bills of lading for cotton stored in alleyways spaces on deck, which could not be permanently closed because of the crew being compelled to pass through such spaces. The *Kirkhill*, 99 Fed. Rep. (U. S.) 575.

* The figures for the Chicago river cover the entire commerce of the river; it is to be noted that the figures for the other ports cover only the foreign commerce.



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LLOYD'S RETURN OF NEW TONNAGE.

According to Lloyd's tables of the vessels added to and removed from the register of the United Kingdom during 1899, the addition to steam tonnage during that period has been a record one. The figures given show that the total addition of steam tonnage during last year was 1,242,592 tons gross, and of sailing tonnage 33,108 tons gross. About 93 per cent. of the tonnage added to the register consists of new vessels, only two of which, of very small tonnage, have been built abroad. The largest items among the other additions to the register are those of vessels transferred from the British colonies and from foreigners to the United Kingdom. These together amount to 80,491 tons, or rather over 6 per cent. of the total.

On the other hand, the gross deduction of steam tonnage from the register amounts to 722,190 tons; and of sailing tonnage to 173,645 tons; or, in all, to 895,835 tons. About 27 per cent. of the steam, and 37 per cent. of the sailing tonnage have been removed by loss, breaking up, etc., while the tonnage transferred to foreigners last year reached the high total of 609,589 tons; of this the steam tonnage amounts to no less than 505,711 tons, or about 70 per cent. of the total deduction. The vessels which were transferred to foreigners were not of very recent construction, nearly half of them having been built prior to 1885, and more than three-fifths prior to 1890. Spain and Italy were the best customers, the former taking 67 vessels of 116,457 tons, and the latter 48, of 83,759 tons. On the whole, then, the steamers on the register of the United Kingdom during 1899 have decreased by 194 and 520,402 tons, and sailing vessels by 389 and 140,537 tons, and thus, while the total number of vessels has decreased by 195, the tonnage has increased by 379,865 tons.

Of the 687 new vessels of 1,315,469 tons classed by Lloyd's during 1899, 929,898 tons, or 71 per cent., were built for British owners, Germany coming next with 69,451 tons. Of the 687 vessels, 664 of 1,298,322 tons were steamers, and 23, of 17,147 tons, sailers, figures which show an increase of 31 steamers of 183,814 tons, and a decrease of 9 sailing vessels of 6,920 tons, as compared with the 1898 figures. Of the steamers 52 were over 5,000 tons each, and of these 39 belong to British owners and 8 to German owners. Of the whole tonnage classed 91 per cent. was built in the United Kingdom, 98.7 per cent. being built of steel, and about 1 per cent. of iron. Sailing tonnage, which formed 25 per cent. of the total tonnage classed in 1891, 30 per cent. in 1892, 18 per cent. in 1893, 6 per cent. in 1897, and 2 per cent. in 1898, forms scarcely more than 1.3 per cent. of the present total.

A NEW LAKE STEAMER.

This steamer, to be built at Toronto by the Bertram Engine Works Co. for the Richelieu & Ontario Navigation Co., will be similar in character to the steamer Toronto,

built by the same firm, but somewhat longer and with greater accommodation. She will run on alternate days with the steamer Toronto on the route between Toronto and Prescott, and will be ready for June, 1901. Her length over all will be 290 feet; breadth of hull, 36 feet; depth of hull, 14 feet; draft of water, 8 feet 6 inches.

The hull will be of open hearth steel with four watertight bulkheads; the main deck also will be wholly of steel, the hull will have considerable dead rise on the bottom, the general model being based on that of the steamer Toronto, which has proved such a complete success both as to speed, economy of fuel and seaworthiness. The increased length will enable the lines to be somewhat easier and finer than those of the Toronto.

The boilers will be four in number; of Scotch type, 11 feet in diameter and 11 feet 6 inches long. Each boiler will have two furnaces of Adamson type, 40 inches in diameter, fitted with the Howden system of hot draft.

The engine will be inclined triple-expansion with three cranks and three cylinders, respectively 28, 44 and 74 inches in diameter and 6 feet stroke, with a working pressure of 175 pounds steam per square inch, capable of making 40 revolutions, with feathering paddle wheels 22 inches in diameter with curved steel buckets 10 feet 4 inches long and 3 feet 6 inches wide.

The average time-table speed will be seventeen miles per hour, with capacity of twenty miles when required.

The general outfit, including steam windless and capstan forward and steam capstan aft, fire and life-saving apparatus, water tanks for trimming purposes, steam steering gear, steam heating and water works system, artificial ventilation and electric light plant of 1,000 lights, will all be of the latest and most improved design.

With the exception of a limited space for a small amount of express freight and the space necessary for crew and propelling purposes, the entire steamer will be given up to passenger accommodation.

Following the principle adopted in the case of the steamer Toronto, the ornamental work will be of original design and finish throughout; and the builders, with their assistant architects and artists, expect the handsomest result yet attained in marine architecture.

CRIB WORK AT BUFFALO.

Major T. W. Symons, Corps of Engineers, U. S. Army, sends notice to vessel captains entering and clearing Buffalo harbor, N. Y., warning them to exercise great care and take no chances during the present ice and fog conditions of running into the submerged cribs of the new Black Rock Harbor or north breakwater.

The south end of this crib work is 1,300 feet distant from the Buffalo breakwater light, and 600 feet north of the line joining the Buffalo light and the Buffalo breakwater light.

While ice is crowding shoreward the crib work is usually covered with ice, and it is not practicable for the contractor to maintain the required red light on the end of the crib work at night. Vessel captains should therefore keep their vessels in the center of the entrance channel and avoid being crowded over to the northward by the ice.

A notice was sent to vessel owners and captains in September last warning them of the dangers and liabilities of vessels in case of collisions with these cribs, but the recent experience of the steamer Yale has demonstrated the importance of again reminding vessel captains of the existence of the crib work.

T. JENKINS HAINS is already well and favorably known as the author of "The Wind-jammers," a novel which until very recently was the best of modern stories of the sea. Mr. Hains has now published an even better one, "Mr. Trunnell, Mate of the Ship Pirate" (Lathrop Publishing Co., Boston). Thus doth Eclipse eclipse himself. Mr. Trunnell himself (his baptismal name is left to conjecture by the author) is one of the most vivid, lifelike and amusing characters in maritime literature. His eccentricities of body and manner, his stern and unswerving loyalty to his own peculiar code of honor, his strange mixture of innocence and savagry are excellently painted. Capt. Andrews, the unscrupulous scoundrel, saved only by his courage and his grewsome sense of humor from becoming utterly detestable, makes a good foil to Mr. Trunnell. These are the figures that stand out effectively. But the bank robber who imposes himself upon Mr. Trunnell as the duly accredited captain of the ship Pirate, though not quite so plausible as the others, is sufficiently amusing, and is the pivot on which turns a novel and striking plot.

FUNERAL OF THE LATE CAPT. THOMAS WILSON.

Simple as his life and impressive as his character were the funeral services for the late Capt. Thomas Wilson, in Cleveland, Wednesday afternoon. The family residence at No. 2198 Euclid avenue was crowded with those who had come from far and near to pay the last tribute to the dead. The floral offerings were beautiful. Rev. Caspar W. Hiatt of the Euclid avenue Congregational church officiated at the services, assisted by Rev. F. C. Ottman of Newark, N. J., and Chaplain Jones of the Floating Bethel. Briefly and eloquently they reviewed the life which had been active in business, philanthropic and church circles.

The remains were interred at Lake View cemetery, the following gentlemen acting as honorary and active pallbearers: Honorary—W. C. Farrington, Buffalo; Capt. Alexander McDougall, Duluth; J. W. Westcott, Detroit; Capt. William Forbes, Port Huron; Capt. J. G. Keith, Chicago; Charles Beatty, Buffalo; William Chisholm, Sr., Justin Snow, Horace Ford, Capt. George P. McKay, W. D. Rees, E. W. Oglebay, Cleveland. Active—Hon. John H. Farley, George L. Quayle, J. E. Upson, J. J. Sullivan, H. D. Goulder, H. A. Hawgood, B. L. Pennington, T. Spencer Knight, J. W. Moore, H. Clark Ford, H. P. McIntosh and Capt. Edward Morton, all of Cleveland.

The flags upon all vessels in the harbor were placed at half mast and many of the offices of the vesselmen were closed. Among the vesselmen from other cities present were: W. C. Farrington of Buffalo, president of the Lake Carriers' Association; Capt. J. G. Keith of Chicago, first vice-president of the Lake Carriers' Association; Capt. Alexander McDougall of Duluth, Capt. William Forbes of Port Huron, Capt. J. W. Westcott of Detroit, C. D. Carpenter of Port Huron, James Ash, George W. Bone and Capt. J. J. H. Brown of Buffalo.

The tribute of the Lake Carriers' Association, prepared by a committee consisting of H. Coulby, B. L. Pennington, J. J. H. Brown and Harvey D. Goulder, is as follows:

"The news of the death of Capt. Thomas Wilson, like a thunderbolt from a clear sky, came as a surprise and a severe shock to his many friends throughout the chain of lakes. It smote all with a keen sense of sorrow for the irreparable loss.

"Thomas Wilson was a man of strong personality. He was dominated by reason rather than by sentiment or impulse and he had the courage of his convictions. He was a man of more than ordinary sagacity and foresight. His integrity was unquestioned. His benevolence was unflinching and he gave without ostentation. Having committed himself to particular charities or institutions he deemed worthy, his interest in them never wavered, his financial support never flagged. He had hosts of friends and stood by them always with fraternity and loyalty. He was a man of correct personal habits. Nothing could swerve him from the course of conduct he had chosen as proper and right for him. A consistent Christian, strenuous for corrected doctrine, he never obtruded his profession but exemplified it in his life. As a citizen he was public-spirited and patriotic. He conscientiously did his part in endeavoring to secure good government and just laws, especially the enactment of laws to promote the cause of temperance. He was a devoted husband, an indulgent father, a steadfast friend. If universal sorrow is any measure of his worth, an irretrievable loss has been sustained in his death.

"His counsels as president of the Lake Carriers' Association, and later as a member of the executive committee, were always wise and helpful; and to him perhaps as much as to any other, we may attribute the success of the association.

"As members of the executive committee we adopt this memorial tendering our sincere sympathy and condolence to the afflicted family in their great bereavement and during the long, sad journey homeward. May the consolations that Heaven alone can give be abundantly bestowed upon the multitude who mourn his loss.

"We direct that this memorial be spread upon the records of the association and that an engrossed copy be presented to the bereaved family."

THE Compound Engine. By F. R. Low. New York: The Power Publishing Co., price 50 cents. This handy little monograph by the editor of Power, is just the sort of practical description of compound engines which every engineer needs. As is well known, with the exception of those for tug boats and smaller craft, there are very few engines built nowadays which are not designed for the expansion of steam, and the engineer who has had to do with the old type of single cylinder should study such a book as this in order that he may be able to comprehend the principles of the improved engine of the day. Many excellent engravings accompany the text, explaining points that would otherwise be difficult to understand. Mr. Low's writings on engineering and kindred subjects have long been recognized as being of great practical value, and the present book, like predecessors from the same hand, can be safely recommended.

WAGE SCALE OF THE LAKE CARRIERS' ASSOCIATION.

SCHEDULE OF WAGES, APRIL 21ST, 1900.

ON STEAMERS—FIRST CLASS.—Metal steamers having water bottoms and triple-expansion engines: Chief engineer, \$132 per month; 2d engineer, \$90; 1st mates, \$96; 2d mates, \$66; cooks, \$66; helpers to cooks, \$24; firemen, \$45; wheelmen, \$45; lookouts, \$45; deck hands, \$25; Oilers, \$45; firemen, fitting out and laying up, \$1.50 per day and board themselves.

ON STEAMERS—SECOND CLASS.—Metal steamers not included in class 1, and wooden vessels with triple-expansion and with compound engines, except the smaller boats which may be put in class 3: Chief engineer, \$114 per month; 2d engineer, \$84; 1st mates, \$84; 2d mates, \$54; cooks, \$60; helpers to cooks \$20; firemen, \$45; wheelmen, \$45; lookouts, \$45; deck hands, \$25; firemen, fitting out and laying up, \$1.50 per day and board themselves.

ON STEAMERS—THIRD CLASS.—Smaller boats with high pressure or low pressure engines, or with compound engines, covering all boats not included in the two former classes: Chief engineer, \$96 per month; 2d engineer, \$66; 1st mates, \$78; cooks, \$55; firemen, \$45; wheelmen, \$45; lookouts, \$45; deck hands, \$25; firemen, fitting out and laying up, \$1.50 per day and board themselves.

CONSORTS AND SAIL—FIRST CLASS.

First mates, \$70 per month; 2d mates (when carried), \$50; cooks, \$45; seamen, \$45.

SECOND CLASS.

First mates, \$55 per month; cooks, \$40; seamen, \$45.

HARD RULES FOR SAILING SHIP MEN MADE EASY.

To the Editor of The Nautical Gazette.

Sir:—The article which appeared in last Monday's New York Herald, entitled "Hard Rules for Sailing Ship Men" emanated from some disgusted applicant, who had been before our local inspectors seeking a master's and pilot's license to command steam vessels.

Our worthy Supervising Inspectors who meet once a year to form rules to govern just such people, have deliberated fully upon every point of this section of the law before amending it, and have been seriously taken to task by this windjammer, who cannot see why a rule can't work both ways.

He takes for the base of his attack, an organization whose standing is unquestioned, and calls it a "job put up with a view to working in their own interest." There is a nigger on the fence somewhere, and if I mistake not, it is the same African who some time ago tried to put the Sandy Hook pilots out of business, but was tamed down and has now flopped over into another puddle to help the sailor man out.

An eminent editor and some lesser lights have been interviewed, and their statements only uphold this section of the law as recommended by the board of inspectors.

As to the steamship man commanding a sailing ship, it is agreed that he would be a little out of place for awhile, and vice versa with the sailor man, only more so, for it requires constant practice for a year or more to command a ship propelled by steam and become proficient in the use of bells, whistles, and the rules governing vessels under steam, which are entirely foreign to sailing ships, besides it requires a man of executive ability to direct the different and many departments of a steamship, which is only acquired by a proper training.

The law which has been amended and recommended to the Secretary of the Treasury seems just, and if properly understood means that a master of a sailing ship would only have to serve a year as first officer of a steamship before he could get an original license for the same as masters instead of three years as falsely stated in the Herald. Here is the law:

"And no original license as master (or mate of ocean steamers, or of coastwise steamers, plying upon waters of the ocean, or high seas) of ocean or coastwise steamers shall be issued to any person who has not had three years' experience on steam or sail vessels preceding the application, one year of such experience to be as chief mate of steam vessels. No original license as chief mate of ocean or coastwise steam vessels shall be issued to any person who has not had three years' experience on steam or sail vessels, and must have served one year as second mate of steam vessels, such service to be immediately preceding the application. No original license shall be issued to second mate of ocean or coastwise steam vessels who has not had three years' experience in the deck department of steam or sail vessels immediately preceding

the application, one year of such service to be on steam vessels."

The American Association of Masters and Pilots of Steam Vessels is not a selfish organization, but upholds the profession at all times and protects the interests of owners of steam vessels, preventing our coasts being piled up with hulls of our noble ships commanded by incompetent men.—Captain.

CHICAGO MARINE HOSPITAL.

After I had been doctoring for eight years, by different doctors and spent all the money I made, without getting better, I went to the U. S. Marine Hospital in Chicago and I was there four weeks and I am entirely cured. I don't think we sailors appreciate what a good thing the Marine Hospital is for us in Chicago. I wish to express my thanks to H. M. Sawtelle, surgeon in charge, also his assistant Doctor Keller.

DEHARD NELSON.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, report the condition of the Eastern freight market as follows:

Owing no doubt in part to the intervening Easter holidays, the volume of business transacted this week has been unusually light. Under ordinary circumstances an accompanying accumulation of tonnage would probably have exercised a somewhat depressing influence on freights, but the small number of steamers now heading for this coast prevents this. The enquiry for grain boats is very light, but rates are upheld at 3s. 9d. for Cork f. o., 3s. 3d. for picked ports. The enquiry for general cargo steamers from the Gulf ports has largely fallen off, and, a number of further fixtures having been effected from the timber ports, the demand from the South is now no longer important. Tonnage for general purposes is in small request and not urgent in any direction.

The market for long voyage ships retains its firmness on account of the continued scarcity of suitable tonnage, and, though fixtures have been few, they show a further slight advance in case oil freights. Lumber rates are also firm, both from Gulf and from Eastern ports, \$13 being bid for the River from the former, and \$10 from the latter. In other lines there is absolutely nothing new to mention.

NOTES.

THE consumption of liquid fuel in Russia has constantly increased since 1897, and it is expected to still further advance, because coal at its present high price cannot compete with petroleum residue in the manufacturing districts lying around Moscow. In fact the collieries from which this region obtains its supplies is situated in the south of Russia, 16,000 kilometers (nearly 1,000 miles) from Moscow, and these collieries produce both anthracite and soft coal, the prices of which were 18fr. 50c. (14s. 10d.) and 18fr. 75c. (15s.) per ton respectively in January, 1899, while the cost of carriage is 16fr. (12s. 10d.) and 17.50fr. (14s.) respectively, bringing up the price with incidental expenses 35fr. (28s.) for anthracite and 38fr. (30s. 5d.) for coal.

In a pamphlet issued by the Lidgerwood-Miller Marine Cableway Co., 96 Liberty Street, New York, describing an invention for transferring coal, ammunition, supplies and provisions from ship to ship at sea, it is stated that eleven ships were blockading Santiago—but when the Spanish fleet came out three were absent off station "coaling ship." They went to Guantanamo, 45 miles away. In the United States civil war, one-quarter of the vessels blockading Charleston, S. C., were alike away continuously coaling in smooth water. Thus we see at Santiago, \$5,000,000 worth of United States war vessels useless at the great crisis—and all because the colliers could not deliver their coal at sea. Can it be disputed, therefore, that the fighting efficiency of a blockading fleet will be increased by one third, if waited upon by colliers capable of coaling at sea?

THE Grand Executive Committee's report to the American Association of Masters and Pilots of Steam Vessels has been issued. It appears in book form, neatly bound, and of convenient size for use by licensed officers of steam vessels. The report is the work of Captain Luther B. Dow, grand purser and counsel for the association, and contains the text of all the cases that have been brought under his charge, showing how justice has been done for members in many instances when they have been brought before the local steamboat boards, notably the case of Capt. Berry, who was placed in the Raymond street jail in Brooklyn; of the commander of the tug Stickney, and many others, whose licenses have been saved to them through the efforts of the counsel. The book is a valuable one and will be of great use in the future when similar cases came up.

STEAMBOAT OFFICERS APPOINTED FOR THE SEASON OF 1900.

JOHN CORRIGAN, Cleveland.—Str. Aurania, Capt. B. H. Jones; Eng. J. Cummings.

WEST DIVISION STEAMSHIP CO., W. H. Wolf, president, 236 Oneida street, Milwaukee, Wis.—Str. Fred. Pabst, Capt. Daniel C. Sullivan; Eng. Mr. Mason. W. H. Wolf, Capt. Wm. Lund; Eng. Thos. Allbrighton. Schr. Armenia, Capt. Frank Brown.

MINCH & NICHOLAS TRANSPORTATION COMPANIES, Wm. Gerlach, Mgr., Cleveland.—Str. I. W. Nicholas, Capt. N. B. Nelson; Eng. Wm. H. Miller. Onoko, Capt. Joseph Lampoh; Eng. E. A. Meeker. Wm. Chisholm, Capt. Wm. Carlross; Eng. Geo. Milne. John N. Glidden, Capt. H. H. Hinslea; Eng. John Miller. Schr. Dundee, Capt. Martin Elnen.

NORTHERN STEAMSHIP CO., Buffalo.—Str. North West, Capt. Geo. A. Miner; Eng. John MacDonald. Str. North Land, Capt. W. C. Brown; Eng. W. C. Lenfest. Str. Northern King, Capt. J. M. Saunders; Eng. John A. O'Mara. Str. Northern Queen, Capt. J. F. Vaughn; Eng. A. T. Stewart. Str. North Wind, Capt. John Hartman; Eng. Thomas Jackson. Str. Northern Wave, Capt. M. S. Peterson; Eng. John J. Darcy. Str. Northern Light, Capt. M. J. Haberer; Eng. John Dee. Str. North Star, Capt. F. G. Stewart; Eng. W. T. Pike.

JAMES CORRIGAN, Managing Owner, Cleveland.—Str. Bulgaria, Capt. F. C. Hart; Eng. Wallace Lockhart; Caledonia, Capt. Robert Donaldson; Eng. E. Sampson. Italia, Capt. John McArthur; Eng. Thomas McDonough. J. Emory Owen, Capt. J. W. Brion; Eng. P. J. Navaugh. Robert Wallace, Capt. Frank D. Perew; Eng. Frank Perew. Quito, Capt. Fred. Chalcraft; Eng. J. H. Smith. Iron Age, Capt. J. A. Nicholson; Eng. Fred Craig. Iron Duke, Capt. N. L. Miner; Eng. Irwin Morrison. Iron Chief, Capt. W. A. Irvine; Eng. August Cobo. Progress, Capt. W. C. Goodsell; Eng. J. Williams. M. M. Drake, Capt. J. W. Nicholson; Eng. C. Muekelburg. Minnesota, Capt. F. B. Cody; Eng. F. McKinney. St. Paul, Capt. Ed. Rains; Eng. John Radford. Schr. Tasmania, Capt. John Weeks; Amazon, Capt. Robert DeLong; Australia, Capt. Harvey Peters; Polynesia, Capt. A. J. McKay; Iron Cliff, Capt. Martin Kurth; F. D. Ewen, Capt. M. D. Pridgeon; Michigan, Capt. McArthur; Ashland, Capt. M. S. Cody; J. M. Hutchinson, Capt. H. Holland; J. I. Case, Capt. Sam Gould; R. Hallaran, Capt. C. H. Marsden.

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"Sailing Alone Around the World," is the title of an interesting and profusely illustrated book published by the Century Co., New York. It tells how Capt. Joshua Slocum, who began his seafaring life when a boy as cook on a fishing schooner, and later was part owner of the American ship Northern Light, sailed around the world, 46,000 miles, single-handed in his little sloop Spray, of which he was both "cook and captain bold, and mate of the Nacy brig, and bo'sun tight, and midshipmite, and the crew of the captain's gig." The Spray sailed from Boston, Mass., April 24, 1895, and returned to Newport, R. I., June 27, 1898. The craft, which was sloop rigged, was 36 feet 9 inches long, with a beam of 14 feet 2 inches, was purchased second-hand and rebuilt by the captain himself in the most substantial manner. The price of the book is \$2, handsomely bound in cloth, and has 250 pages.

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COMPLETION OF WATER WORKS TUNNEL IN CHICAGO.

The finishing work is now being done upon an extensive addition to the tunnel system of the waterworks of Chicago. The tunnel in question starts from the Carter H. Harrison crib, in Lake Michigan, 2½ miles northeast of the foot of Oak street. This is the largest of the Chicago cribs, and was erected at a cost of \$200,000. It has improved intakes, which prevent ice clogging, and is arranged so that the present tunnels to the two-mile cribs can be connected with it. It is equipped with electric lights, heated by steam, and has every improvement for the comfort of the attendants and economical operation. The tunnel from this crib to the foot of Oak street is 10 ft. in diameter. From the foot of Oak street an 8 ft. tunnel extends to Green and Indiana streets, where it divides, one branch running southwest to a pumping station at Central Park Boulevard and Filmore street, and the other northwest to Springfield avenue and Bloomingdale road. Both of these branch tunnels are 8 ft. in diameter. Ground was broken on the work on Thanksgiving Day, 1895. The lake section of the tunnel was completed in September, 1898, and the first land section in August, 1899. The contractors who undertook to build the northwest branch defaulted after completing 4,000 ft. of tunnel, the remainder then being completed by the city, at a saving of about \$40 per foot on the contract price. Work on the southwest section was tied up from September, 1897, until February, 1899, by a dispute over the meaning of the contract, which was finally settled by the courts. The pumping stations, instead of being located on the lake, as at the other tunnels, are at the ends of the tunnels. The Central Park station will be ready May 1 and the Springfield avenue station July 1. Each station will have four engines, placed 40 feet below the level of the street. The total cost of these tunnels has been upwards of \$4,000,000.—The Railway and Engineering Review, Chicago.

THE Holland, which has just been bought by our government, is, strictly speaking, a torpedo; but a torpedo controlled in all its workings by human agency inside the craft, instead of being automatic in its operations. It is claimed that the vessel can go 1,500 miles on the surface of the water without renewing its supply of gasoline. It is further claimed that it can go fully forty knots under water, and that there is enough compressed air in the tanks to supply the necessary number of men for running the craft with fresh air for thirty hours, if the air is not used for any other purpose, such as emptying the submerged tanks. It was demonstrated in one of the recent tests that the Holland is capable of diving to a depth of twenty feet in eight seconds. It can stay at sea under an emergency for a week. Such has been the interest excited in this submarine vessel that Japan as usual one of the leading nations, has directed her military attaché in Washington to carefully examine into the merits of the vessel. On April 7 he was allowed to be present on the Holland during one of the official tests. Attaches of other nations also are taking great interest in the little craft. Mr. Goschen, 1st Lord of the Admiralty, in reply to a question by the House of Commons with reference to submarine boats, disparaged them except as weapons of defense, and said: "It seems certain that a reply to this weapon must be looked for in other directions than in building submarine boats ourselves, for, clearly, one submarine boat cannot fight another."—Army and Navy Journal.

THE SHIPPING INTERESTS.

A bill has been introduced in the House of Representatives by Mr. Chanler, of New York, which, if enacted into law, may prove injurious to American shipping interests. Evidently, it is a measure which should be carefully considered in both houses of Congress before action is taken upon it. It is claimed by shipowners that the bill would add enormously to their expenses. Under the provisions of this measure a vessel of 950 tons, now manned by seven seamen at a cost of \$175 a month, would be compelled to increase its complement of sailors to 17, thus more than doubling the present outlay for sailors, food and wages. The sailor's lot is not altogether a pleasant one, and shipowners do not object to legislation designed to improve his condition, if it is reasonable and equitable. In legislating in the interest of seamen, however, Congress should not overlook the fact that ship owners are also entitled to consideration. If the restrictions imposed upon them are oppressive, an injury will be done to the American merchant marine which will not easily be repaired. A great deal is being said in and out of Congress at the present time about the revival of our merchant marine. This revival may be indefinitely postponed, however, by legislation which imposes heavy burdens upon shipowners.

CAPT. SLOCUM AROUND THE WORLD.

The narrative by Capt. Joshua Slocum, of his trip around the world in his small sloop Spray, which appeared in the Century Magazine, is now published in book form by the Century Co., under the title "Sailing Alone Around the World" (illustrated by Thomas Fogarty, 294 pages, \$2.00). Many of our readers will be very much interested in this personal narrative of the sailor of the sloop Spray, on her "single-handed" voyage of 46,000 miles. The author's experience as a circumnavigator of the globe was, of course, unique; but a mere seaman, not knowing how to write, could have made his account of it as tedious as a twice-told tale. In a previous book, "The Voyage of the Liberdade," Capt. Slocum had shown himself to be no less skillful as a writer than as a boat-builder and sailing-master; and in his present work he writes with a freshness and pungency that add infinite zest to the record of his voyage. The good ship was not only commanded and sailed by himself alone, but had been made by his own hands. She measured 40 feet long over all, 14 feet 2 inches beam, and 4 feet 4 inches depth of hold, and she was planned to "smash ice," though she never had to do it. The story of such an achievement as Capt. Slocum's cannot be condensed into a paragraph, but the briefest summary would take note of his escape from pirates off the coast of Africa, his fight with the savages of Tierra del Fuego, his visit to Robinson Crusoe's island, his running before the wind for weeks without steering, his speaking of the battleship Oregon on her record-breaking run, and—timeliest if not most entertaining of all—his interview with President Kruger at Pretoria.

Admiral Dewey, brave and true man that he proved himself when the country needed a great American admiral in the Philippines, is no more fitted to be president of the United States than he is to deliver an extemporaneous address, and he has repeatedly declared that he could not make an impromptu speech. Dewey is a good sailor, but a very poor statesman.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 10TH DIST.
BUFFALO, N. Y., April 18, 1900.

NIAGARA RIVER—DREDGED CHANNEL ABOVE CAYUGA ISLAND.

Notice is hereby given that, on the opening of navigation 1900, six 16-foot spar buoys will be established to mark the recently dredged channel across the reef above Cayuga Island and below the Edgewater Ferry Landing, Niagara river, New York.

These buoys will be numbered from one to six inclusive, three black and three red, marking the ends and sides of the dredged channel, and will be named First Buoy, Second Buoy, Third Buoy, etc.

The channel marked by these buoys is straight and across a reef of rock; it is 150 feet wide for its entire length of about 1,000 feet. The depth in this dredged channel is 12 feet. There is loose rock on the sides over which there is only 6 to 8 feet of water. Vessels drawing over 10 feet of water should not attempt to use this channel.

Inspector 10th L. H. Dist. FRANKLIN HANFORD,
Commander, U. S. N.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—WISCONSIN.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., April 23, 1900.

ELBOW BEACON LIGHT STATION.

Notice is hereby given that, on or about May 1, 1900, this fixed red lens-lantern light, at the elbow and on the easterly side of the dredged channel, between Grassy Island and the mouth of the Fox River, southerly end of Green Bay, will have its arc of illumination increased from 180° to 270°, and will be visible from all points in the dredged channel between Grassy Island and Murphy's Dock.

BUFFALO LIGHT STATION.

Notice is hereby given that, on the opening of navigation, the color of the tower at this station, on the south pier at the entrance to Buffalo Harbor, easterly end of Lake Erie, will be changed from gray to white.

CONNEAUT RANGE LIGHT STATION.

Notice is hereby given that the intensity of the lights of this range, for entering Conneaut Harbor, southerly shore Lake Erie, and on the westerly pier at the entrance to the harbor, will be at once increased by changing both to lights of the fifth order. No other change will be made.

By order of the Light-House Board.

FRANCIS J. HIGGINSON,
Rear-Admiral, U. S. Navy, Chairman.

Pilotage—Unnavigable Vessel—Statutes.—A helpless and unnavigable vessel, which has sprung a leak, so as to require the use of two steam pumps, and is without master, commander, or crew, having but a dozen laborers aboard, working the pumps, and has only a temporary rudder, and is in tow of a steam tug, is not within Pol. Code Ga. 1895, § 1656, providing that "any person, master, or commander" of a vessel "bearing toward any of the ports, rivers, or harbors of this state" shall be liable to pay the first pilot offering his service, and exhibiting his license, "if demanded by the master," though section 1664 requires the pilot to offer his services to a "vessel in distress," these sections, with section 1657, secure to the pilot bringing the vessel in, the right to take her out "unless the master of such vessel shall prove * * * that such pilot misbehaved while in charge of the vessel;" section 1658 providing that the pilot shall moor or dock the vessel, if required by the master on arrival, and section 1666 providing that "the master of a vessel in readiness to leave must, if practicable, give notice to the pilot entitled to conduct the vessel out" showing that a navigable vessel with a master on board, and not one in need of salvage service, is contemplated. Hunting vs. Craig, 99 Fed. Rep. (U. S.) 456.

TREASURY DECISION.

APPEALS TO SUPERVISING INSPECTORS FROM DECISIONS OF LOCAL INSPECTORS.

Local Inspectors not Required to Formulate Charges Against Licensed Officers, Preceding the Suspension or Revocation of a License, When Holding Investigations Under Section 4450, Revised Statutes.

TREASURY DEPARTMENT,
STEAMBOAT-INSPECTION SERVICE,
WASHINGTON, D. C., April 14, 1900.

SIR:—This department is in receipt, through the office of the Supervising Inspector-General, Steamboat Inspection Service, of your letter dated April 4th instant; also copies of letters to yourself from the aboved named officer, calling upon you for copies of all official papers connected with the investigation of the case of collision between the steamer Pacific, D. A. Woodward, master and pilot, and steamer Charlie Clark, Harry Swaney, master and pilot.

The local inspectors at Pittsburg, Pa., upon investigation, found Capt. Woodward of the Pacific, guilty of "negligently and unskillfully navigating his steamer," for which his license was suspended for ninety days, which decision was afterwards reversed by you as supervising inspector under the authority conferred by section 4452, revised statutes, you having, however, in accordance with your own statement, before hearing Capt. Woodward's appeal, referred the matter back to the local board with directions to prefer charges against both officers, on the ground, substantially, that local inspectors must, in such cases, not only investigate collision cases, but afterwards prefer charges against the licensed officers involved, before they are authorized to suspend or revoke the license of either, or both.

Referring to your statement that from your "standpoint and construction of the law if I (you) send the papers in this case to be reviewed and confirmed or reversed by the Supervising Inspector-General, I (you) will be going directly contrary to the instructions contained in the manual of 1899 and the law of the land," reference being made by you to decisions No. 6401 and No. 7278, pages to 281, 282, and 283, you further stating that your "appeal is not from the Supervising Inspector-General, for he has made no decision, but to have you (the Department) pass upon the finality of my (your) decision under the law of the land and Treasury decision No. 6401."

In reply to the objections stated by you to furnishing copies of the papers in the case under consideration—namely, that it would be "contrary to the instructions of the manual of 1899 and the law of the land"—the Department fails to find either in the manual or the law any instructions forbidding an officer of the Inspection Service, either a supervising or local inspector, from furnishing the Supervising Inspector-General, upon application, a copy or copies of any document or documents upon their official files, and the Supervising Inspector-General's request in this instant should have been promptly complied with. Your supposition that the Supervising Inspector-General might, with the papers called for, "confirm or reverse" your decision in the case seems to the Department to have been wholly without warrant, and if warranted, the time for complaint would have been after the act, and not in anticipation thereof.

Referring to your contention that local inspectors can not suspend or revoke a license of an officer, when investigating causes of collision between steam and other vessels, under the authority conferred on such officers by section 4450, Revised Statutes, without first investigating and then making charges against the officer or officers found at fault, and then trying them on such charges, is wholly foreign to the intention of the statute referred to. Said section was intended to give the local inspectors of steam vessels summary power to act in the interest of the general public without formal trial of an officer, if, upon investigation, one has been found guilty of

misbehavior, incompetency, or willful violation of the law.

In a case where a licensed officer was found drunk on duty by the inspector, who summarily suspended his license on the spot, and it was contended that such action by the inspector was unlawful, it was held by the Solicitor of the Treasury that—

The only object of an investigation as provided for in section 4450, Revised Statutes, is to satisfy the Board that an alleged charge of incompetency or misconduct is or is not true. In this case the taking of testimony is wholly unnecessary, and a failure to order a formal investigation could not, as shown by the evidence, prejudice the matter. (Solicitor's letter, unpublished, June 18, 1891.)

The Solicitor of the Treasury again, in decision 9139, last paragraph, page 295, manual, 1895, says:

No formal charges setting forth particular acts of incompetency or misconduct, as required by the rules prescribed by the Board of Supervising Inspectors, are necessary to give the local board jurisdiction when acting under the provisions of section 4450, Revised Statutes.

With these decisions of the Solicitors of the Treasury before it, this Department must hold that you were in error in referring the case under consideration back to the local inspectors with directions to those officers to make charges against both the licensed officers concerned and try them on such charges. The only action you could have taken for which there is legal authority was to have re-investigated the case under the provisions of section 4452, Revised Statutes, as you subsequently did, reversing the decision of the local inspectors.

Assuming that in your final action under section 4452, Revised Statutes, all the forms of law were complied with, no appeal from such decision will lie with the Department (decision 6401, referred to by you), but if it should be contended by the party claiming to be aggrieved by your decision that the forms of law in your investigation were not complied with, then an appeal could be considered by the Department, decision 7278, also referred to by you, second paragraph, page 283 of the manual, which reads as follows: * * * The Department has decided (decision 6401, June 12, 1884) that it can not interfere with a decision of a supervising inspector. Such ruling was only meant to apply in cases where all the forms of law have been duly complied with by the supervising inspector.

On questions of fact brought before the supervising inspector, on hearing a case on appeal from decision of local inspectors, the law (section 4410, Revised Statutes) gives an aggrieved officer an appeal to the Board of Supervising Inspectors, who are directed to "as far as possible correct mistakes where they exist." You are referred to page 62 et seq., Proceedings Board of Supervising Inspectors, 1883, for an opinion of the Solicitor of the Treasury (dated January 31, 1883) as to the duty of the Board in the case of such an appeal; also on same pages a report of the action taken by the Board on a case of appeal then before it.

Respectfully,

O. L. SPAULDING, Acting Secretary.

Mr. S. R. Crumbaugh,
Supervising Inspector Seventh District, Cincinnati, O.

SHIPPING IN THE UNITED KINGDOM.

Relative to shipping in the United Kingdom, H. E. Moss & Co., Liverpool, in their half yearly summary says:

"The opinion that we expressed in our circular issued early last year, that 1899 would be a profitable year for shipowners, was amply verified; and apparently this result was arrived at by other causes than the war in South Africa. The enormous quantity of tonnage chartered by the Government has not caused the upward movement in freights which might have been expected from such a number of steamers being taken off the market; on the contrary, freights generally are lower to-day than they were six months ago. Al-

though this may be a disappointment to shipowners, it should be a matter of congratulation to the rest of our countrymen. That such a number of large vessels could be diverted from their regular employment, without causing any interruption of the regular lines, and without even causing an increase in freights, proves how enormous are the resources of this country in matters maritime; and this, even without laying stress on the excellent way in which the steamers chartered by the Government for troops and other purposes have done their work.

"As regards shipbuilding in the United Kingdom during 1899, the output was the largest on record, 1,416,791 gross tons of merchant shipping having been launched; being an increase of 49,221 tons over the output of 1898. Of these 1,416,791 tons, 1,167,530 tons were built for British (United Kingdom and Colonies) account, and 248,261 tons for foreigners. Of the latter, Germany was our best customer, having taken 68,057 tons, Austria-Hungary next with 36,837 tons, and Norway third with 28,419 tons.

"The year 1900 commences with 1,306,751 tons of merchant shipping being under construction in the United Kingdom, this being about 100,000 tons less than at the corresponding period of 1899.

"Prices for new vessels increased about 7½ per cent. during 1899, and at the end of the year we should say prices were about 7½ per cent. higher than they were at the highest point they reached in 1890, and about 37½ per cent. up from the lowest point in 1895. So far as we can see, prices are not at all likely to be lower during 1900; the builders, on an average, have 12 months' work on hand, and the cost of production is very high, steel ship plates being a little over £8 per ton.

"Continental shipbuilding is increasing very fast; the output in 1898 was about 260,000 tons of merchant shipping, in 1899 it was about 470,000. Of this Germany alone has produced over 210,000 tons, as against 153,000 tons built by her in 1898.

"There has been a brisk demand for second-hand steamers; a large number of them changed hands, and at very good prices. The construction of sailing ships in the United Kingdom was very small, but under the influence of the State bounties, a number of large sailing ships were constructed in France—24 ships of 2,000 tons, or larger, having been launched from the French yards during 1899.

"Again we have to draw attention to the increase in the size of steamers built; at the head of the list is the Oceanic, of 17,274 tons, and both companies and tramp owners show an inclination, when ordering new boats, to have larger ones than previously. The new express steamer building for the Hamburg-American Line, the Deutschland, is nearing completion, and, although smaller than the Oceanic, she will be faster—in fact, she is expected to be the fastest ocean steamer in the world."

Negligence—Action for Injury—Knowledge of Danger.—As a steamship was approaching a dock a rope ladder was let down over the side to enable a seaman to land upon the pier and make the vessel fast, and in the hurry of the moment it was dropped in front of the opening of an exhaust pipe connected with the donkey engine. While the ship was being moored, or immediately after, libellant, a stevedore, started to climb on board to seek employment in loading the vessel, which was customary at that port, and when opposite the exhaust pipe the engine was started for some purpose, and libellant was burned by the escaping steam and water. The end of the pipe could have been seen from the pier, and libellant knew its nature and use. Held, that the vessel was guilty of no negligence of which libellant could complain, there being no claim that he was known to be coming on board when the engine was started, and that he must be held chargeable with knowledge of the danger, which he could have seen. The Thomas Turnbull, 99 Fed. Rep. (U. S.) 781.

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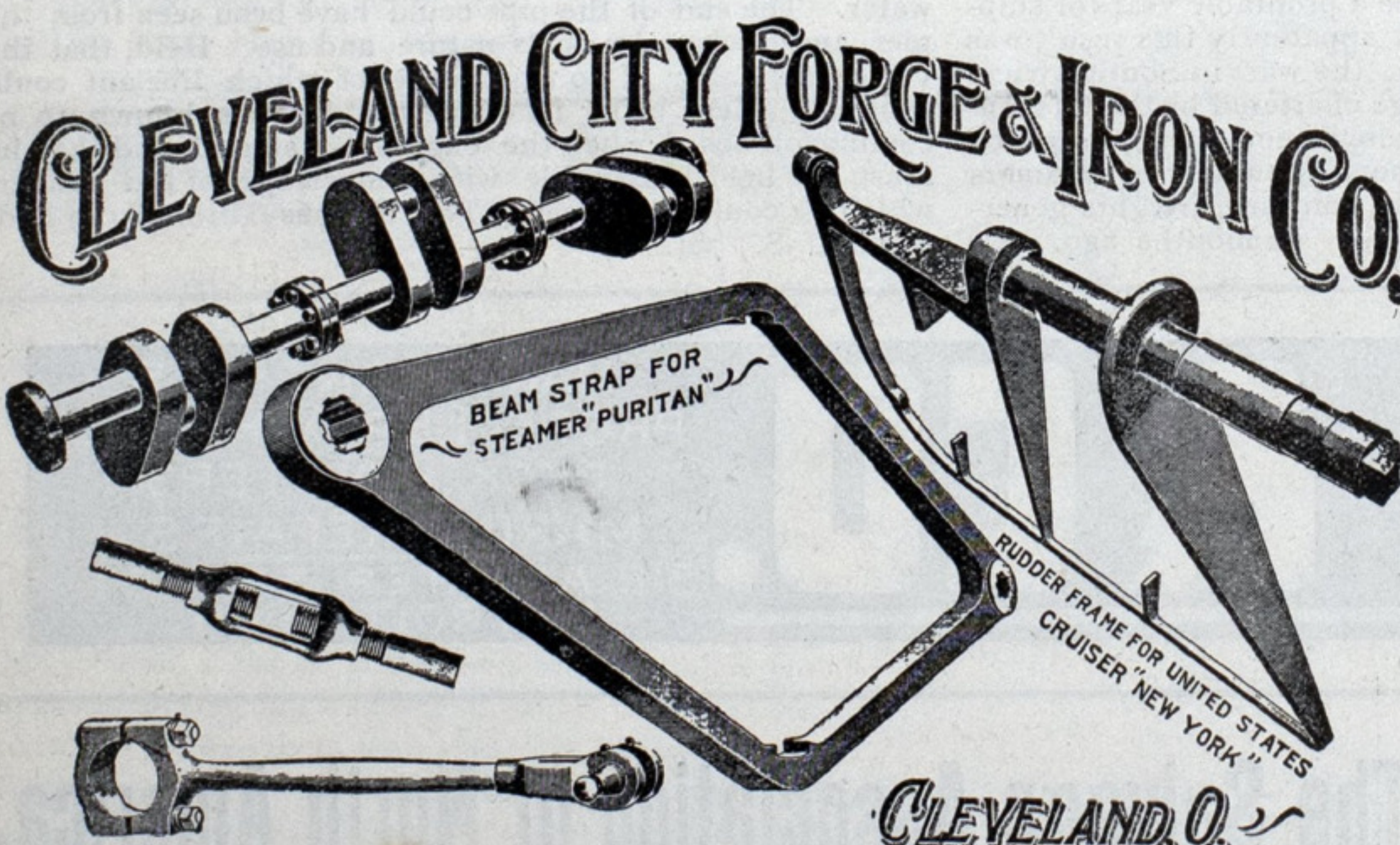
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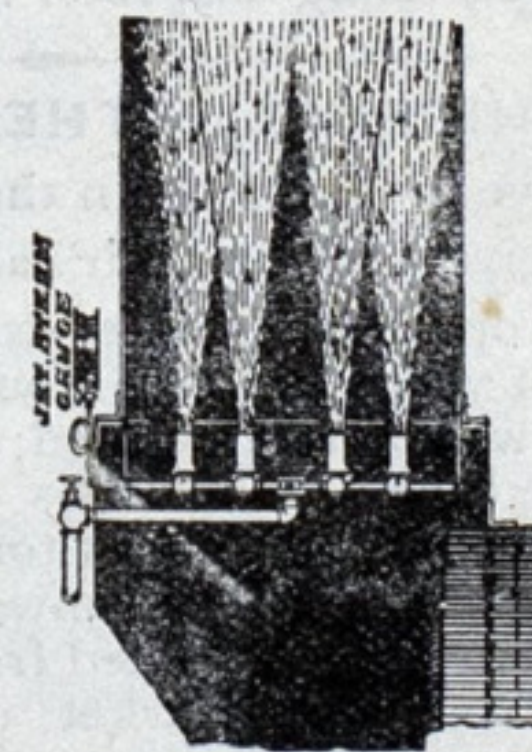
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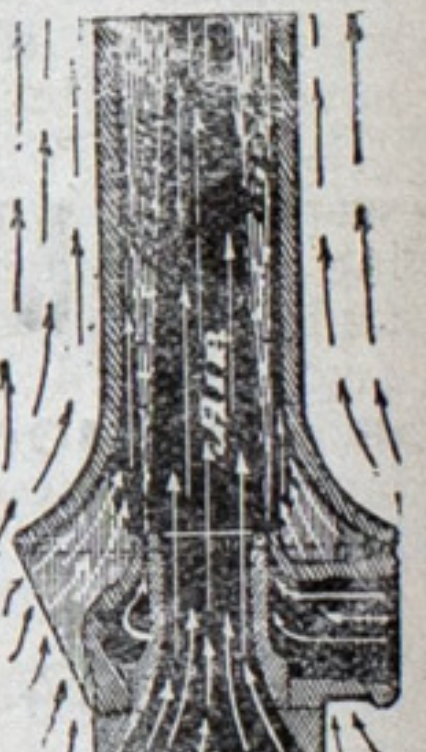
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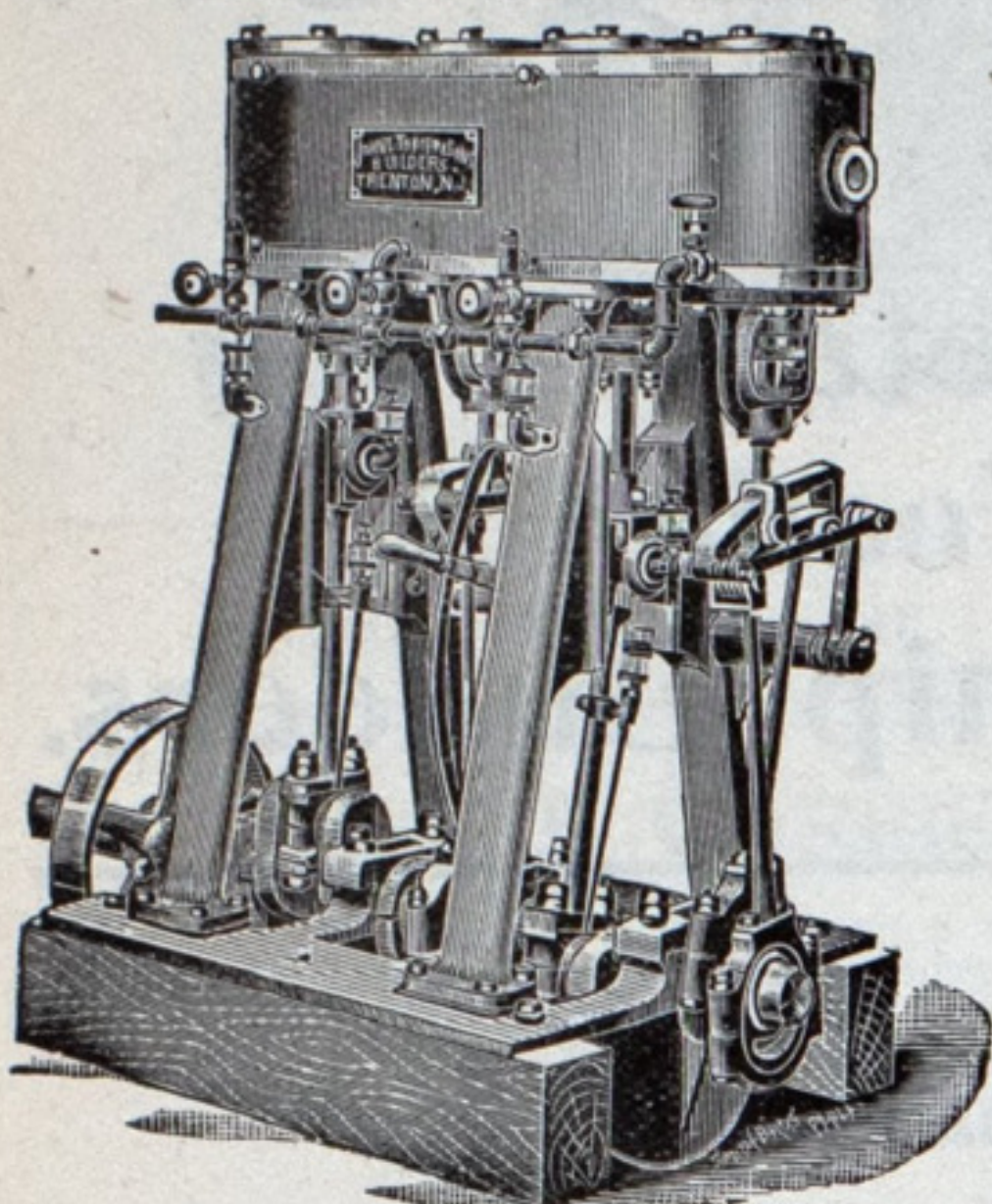
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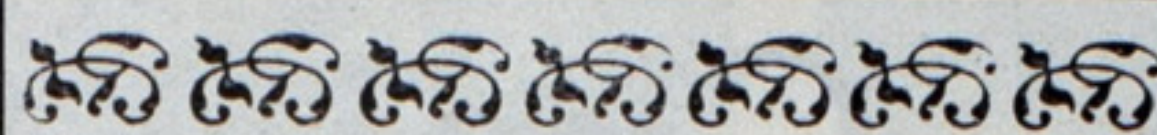
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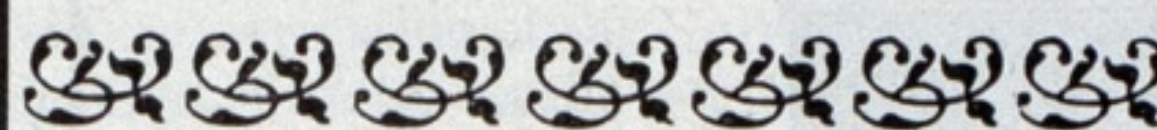
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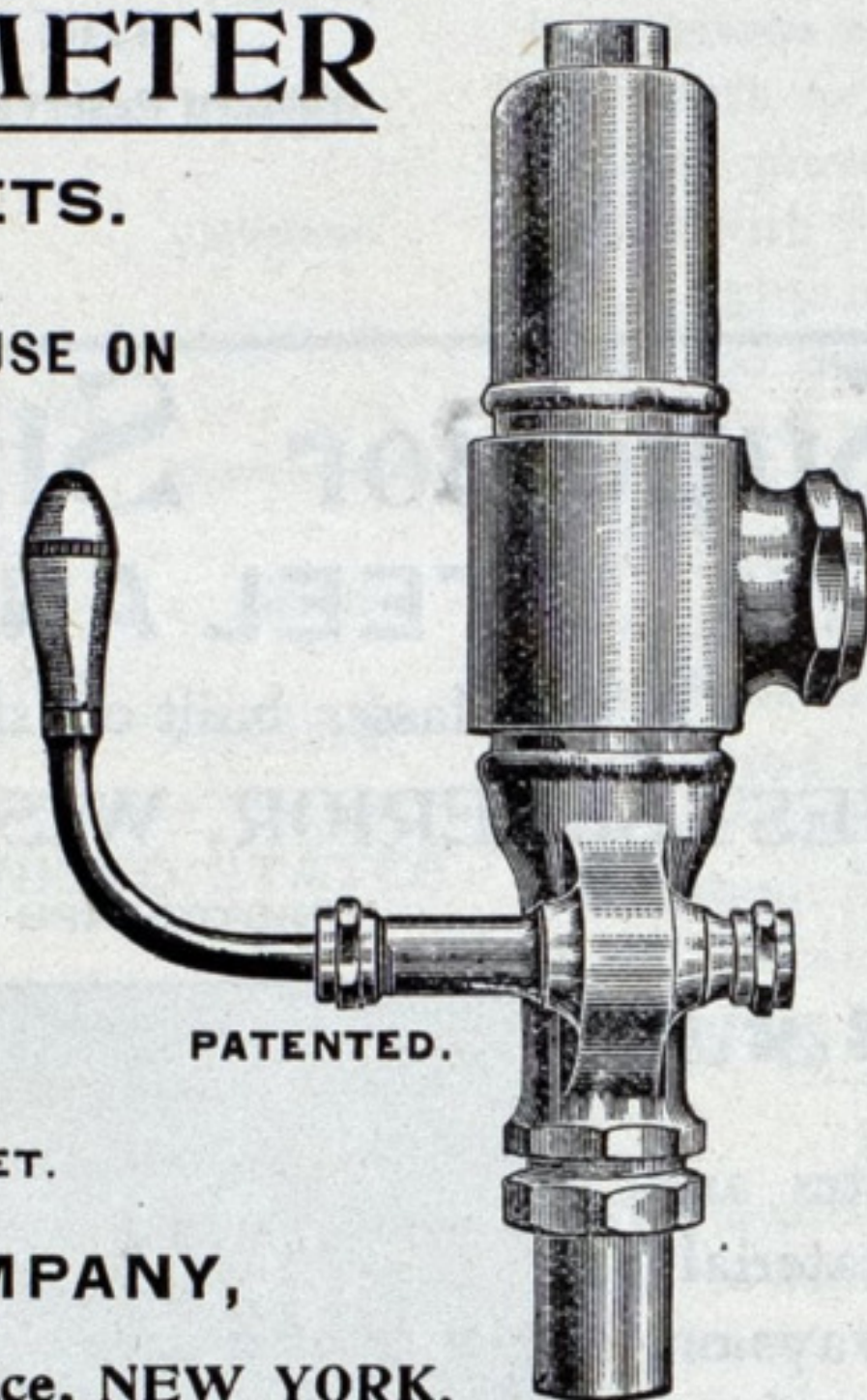
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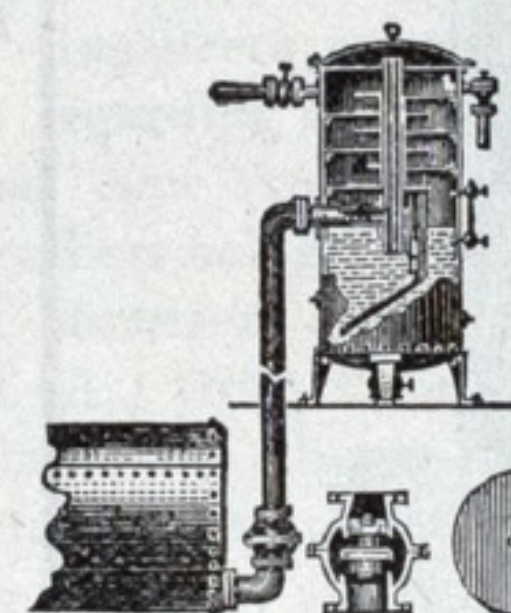
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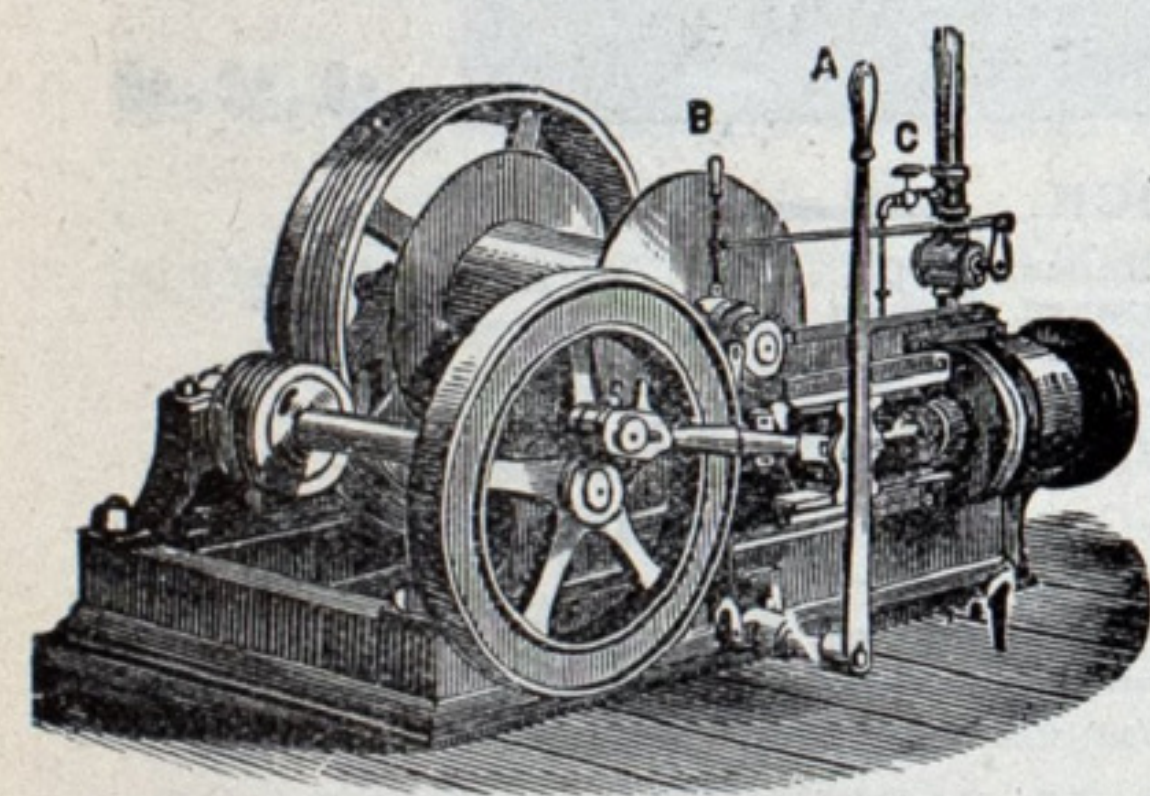
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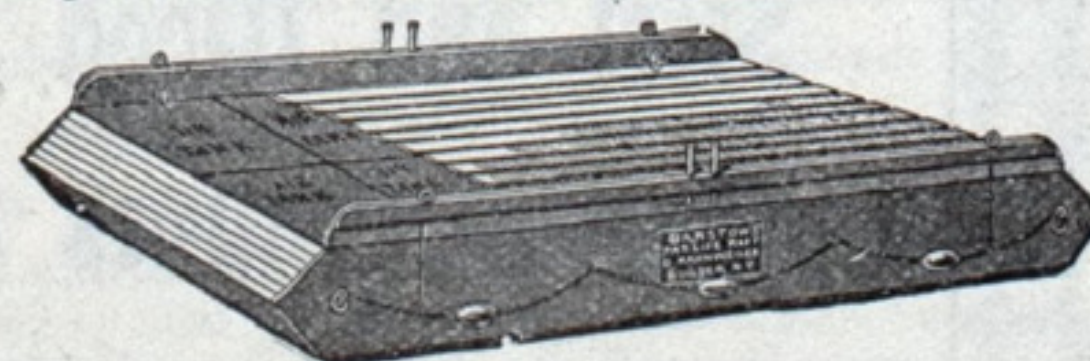
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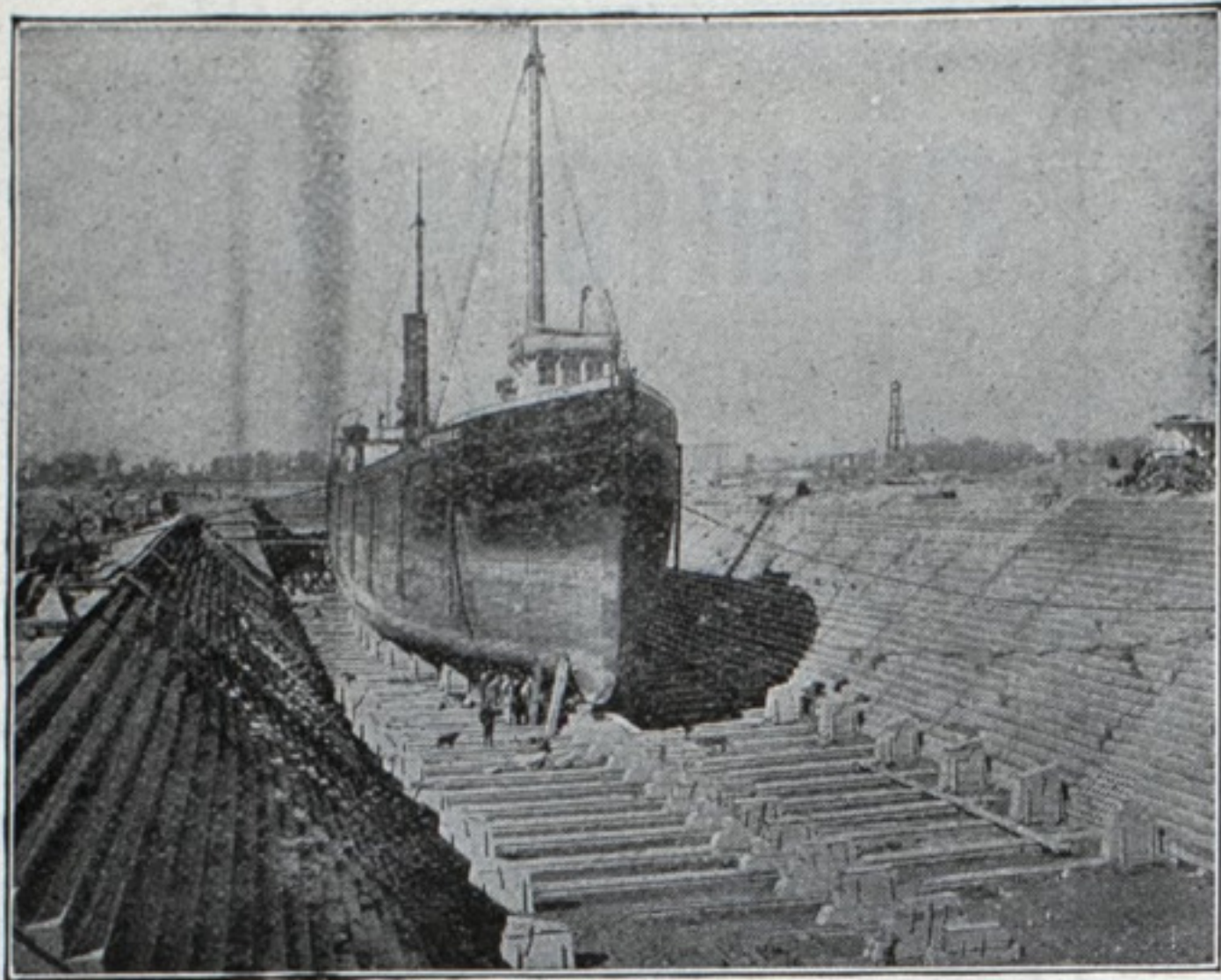


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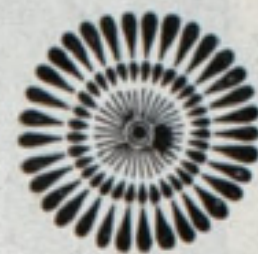
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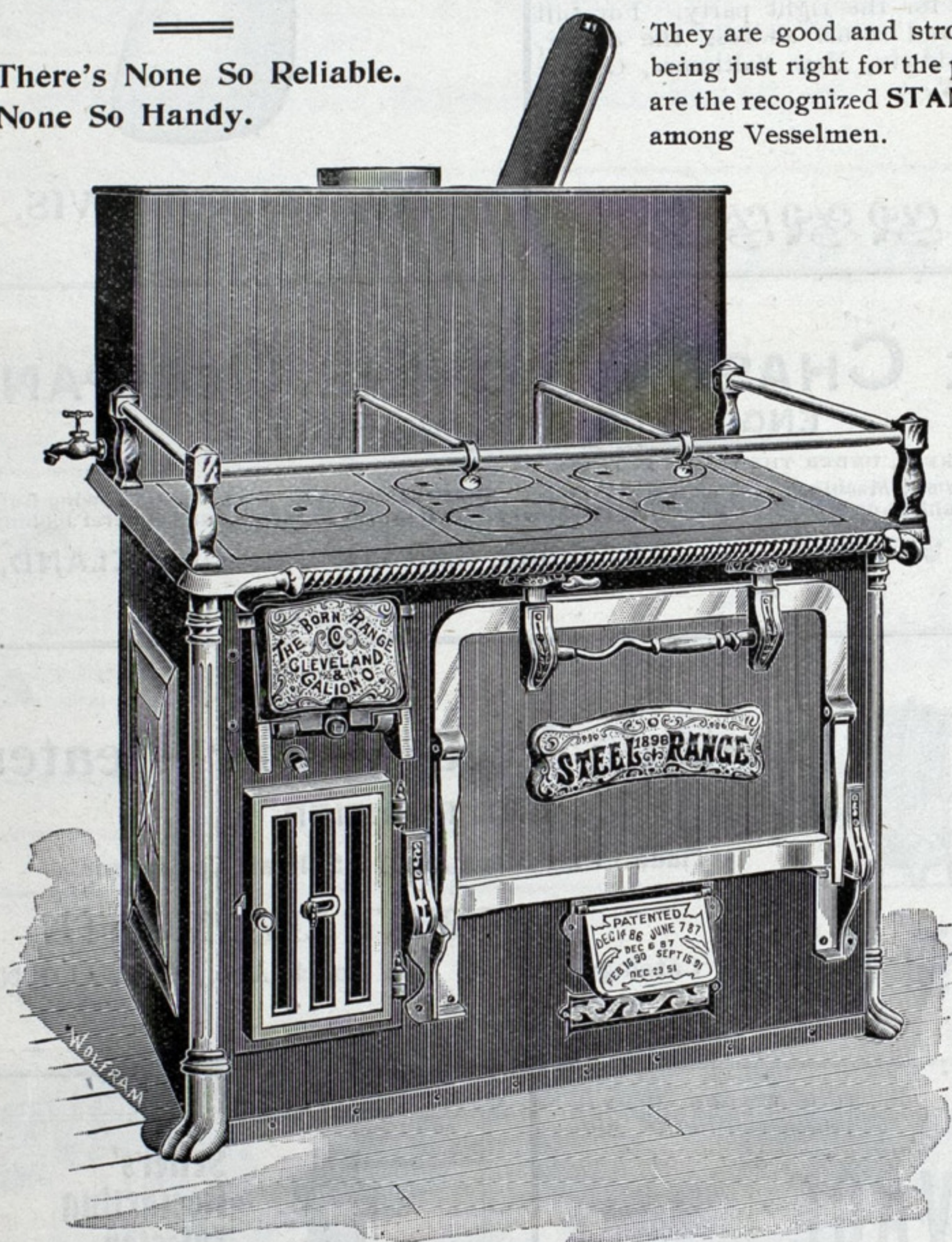
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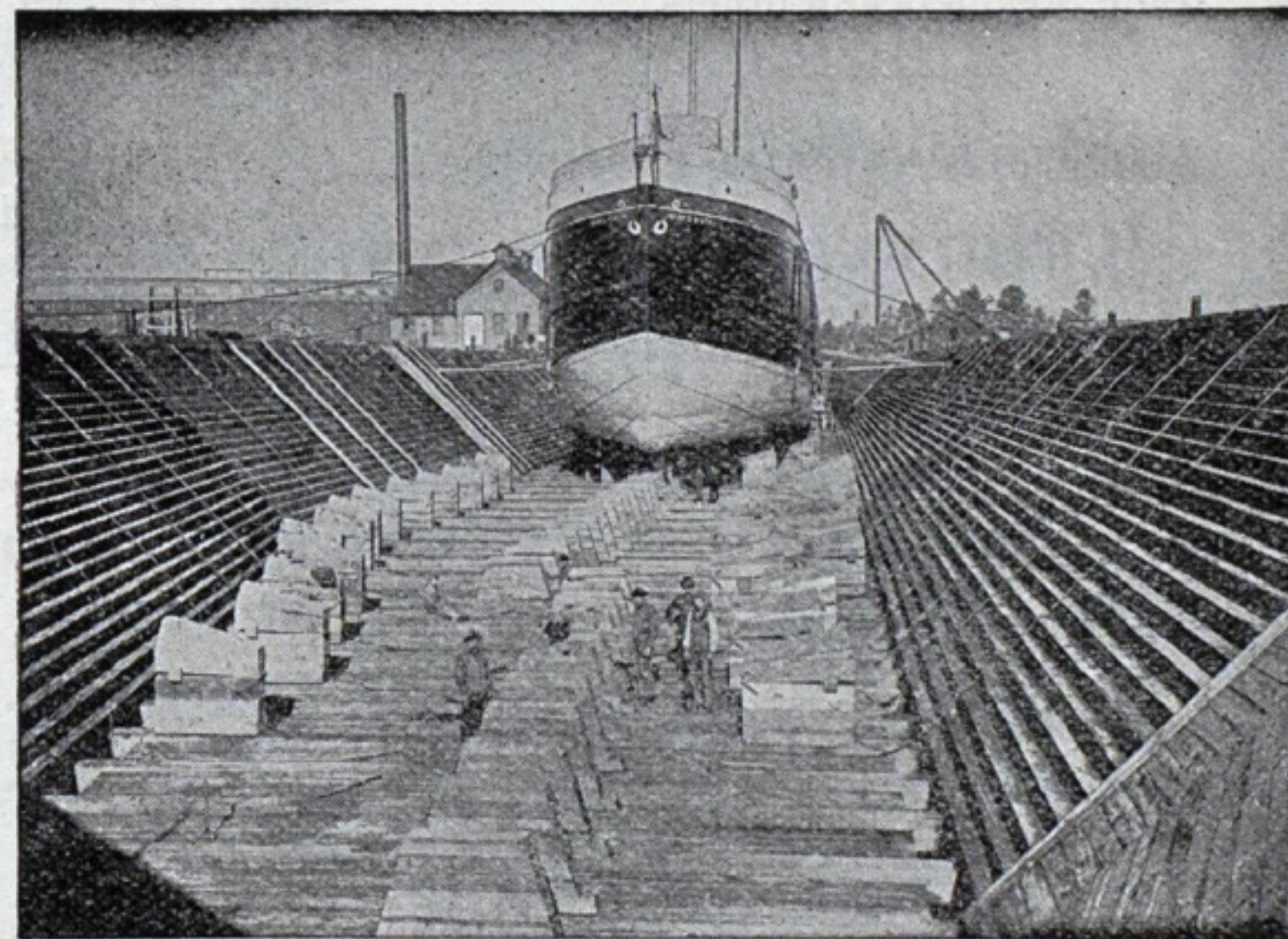
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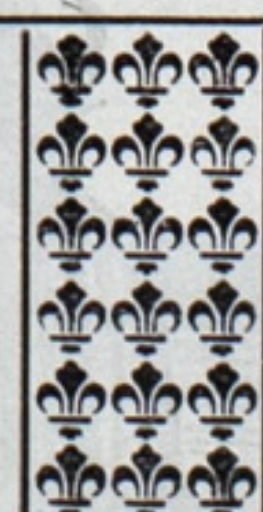
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